The Federal Fleet
Strategy Development Supplement

September 2000

Prepared by
Office of Technology Utilization
Office of Energy Efficiency and
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U.S. Department of Energy

1 Background

Under Executive Order 13149, “Greening the Government through Federal Fleet and Transportation Efficiency,” of April 2000, Federal agencies are expected to take the lead in reducing the Nation’s petroleum consumption. This is to be accomplished through the use of alternative fuels in agency fleet vehicles, and through an improvement in fleet fuel efficiency.

E.O. 13149 establishes a goal for Federal agencies to reduce annual fleet petroleum use by 20 percent by 2005, and highlights mechanisms for agencies to use to comply with the goal. To ensure agencies realistically consider all options available to them to meet the petroleum reduction goal, they are required to (1) prepare a detailed strategy for meeting the new requirements and submit it to the Department of Energy (DOE) by October 18, 2000, and (2) report annually on their progress in meeting the requirements.

A July 2000 publication, *Executive Order 13149, Greening the Government through Federal Fleet and Transportation Efficiency: Guidance Document for Federal Agencies,* contains the information agencies need to begin work on these tasks. However, DOE believes supplemental guidance will assist agencies and their fleets in accomplishing the specific steps of each task. The supplements can also anticipate questions likely to arise during the conduct of each task.

This first supplement, the *Federal Fleet Strategy Development Supplement*, will help navigate agencies through the strategy-development process. It will be followed by the *Federal Fleet Data Reporting Supplement*, which will help agencies prepare annual reports to DOE on how their strategies are progressing.

2 Suggested Outline for Agency Strategy

The Strategy Report is the agency's plan for reducing its vehicle fleet's annual petroleum consumption by at least 20 percent by the end of FY 2005, compared with Fiscal Year (FY) 1999 petroleum consumption levels. There is specific information that must be included in the written Strategy Report.

The Department of Energy strongly recommends that agencies follow the outline below for organizing data and comments in the strategy. This will ensure that the strategy is complete and will help facilitate DOE's timely review of the material. Refer also to the sample agency report in Appendix A for further guidance in structuring the strategy.

Model Outline for Strategy:

Cover Page
(Title, Name of Agency, Date)

I. Data Collection
(Table showing data requirements and sources used; see sample in Appendix A, Table A-1).

I-1. FY 1999 Baseline Petroleum Use
(Table[s] showing agency's total gasoline and diesel use, non-road and other exempt petroleum use, total petroleum consumption less petroleum consumption of exempt vehicles, and 20 percent of that baseline figure which equals the agency's petroleum reduction goal; see Appendix, Tables A-2 and A-3); add a brief statement that repeats the values for the baseline petroleum use and the 20 percent reduction goal in GGE.)

I-2. Agency's Fleet Characteristics
(Table showing numbers of light-duty vehicles (LDVs), medium-duty vehicles (MDVs), and heavy-duty vehicles (HDVs) agency-wide or by individual fleets chosen to implement the strategy; see Appendix, Table A-4, and Section 1-2 for discussion on why model strategy is based on individual fleets; include brief discussion of which fleets will be targeted
and why, if that is the method used.)

I-3. Basic Assumptions
(Those made in preparing strategy; see Section I-3 in Appendix A.)

I-4. Fleet Analysis
(Table summarizing potential contribution of each element/option to petroleum savings, in GGE and percent of total; see Appendix A, Tables A-5, A-6, A-8, A-10; show any calculations made; include discussion of why these elements were chosen for achieving a 20 percent petroleum use reduction.)

- For the required approach of AFV acquisitions and Alternative Fuel Use, a table of infrastructure availability and projected costs for installing infrastructure (Appendix A, Table A-7); describe calculations.
- For the required approach of Acquisition of Higher Fuel Economy Vehicles, a table showing projected petroleum savings (at one location or agency-wide; see Appendix, Tables A-8, A-9); describe calculations.

II. Results of Agency Strategy
(Table incorporating all key data from strategy; see Appendix, Table A-12; show 20 percent petroleum use reduction goal and percent achieved by strategy; add short discussion of key points of strategy).

III. Recognition and Awards
(Describe any special recognition planned for fleets or fleet managers whose work exceeds requirements.)

The remainder of this document describes the process for developing an agency's strategy for compliance with E.O. 13149. Examples to illustrate each of the steps involved will be found in Appendix A. Although these examples are specific to another agency's fleet strategy, they provide a template upon which to substitute an agency fleets' information.

3 How To Get Started

The task is to prepare a strategy for an agency to achieve a 20 percent reduction in annual petroleum use by 2005 among its fleets.

The strategy should be comprehensive, describing in some detail the methods by which the fleets will comply. The strategy will be a roadmap that can be followed by fleet managers and other decision makers in the agency. Foremost, the strategy should be achievable so that individual fleets that will be impacted by the strategy will "buy-off" on its methods.

The strategy consists of two parts: A technical analysis of petroleum reduction in fleets (presented in tables or spreadsheets), and a written report identifying assumptions and explaining the approach.

Recommended Steps:

1. Establish direct contact with each of the fleet managers to ensure they have input into developing the strategy by evaluating the fleet makeup, providing accurate petroleum-use data, and planning their required activities for the strategy.
2. Establish a baseline for agency-wide transportation petroleum use in FY 1999 (see Section 4 of this supplement) and for the average fuel economy of new petroleum-fueled, light-duty vehicles acquired in FY 1999 (Section 5).
3. Calculate the value for a 20 percent reduction in petroleum use, based on the FY 1999 petroleum consumption.
4. Collect data from the agency's fleets on fleet composition and characteristics, combined fuel economy ratings by light-duty-vehicle category, and on alternative fuel infrastructure near the fleets' locations.
5. Analyze the data collected.
6. Determine how the agency will reduce petroleum use by 20 percent across the agency's fleets, using options provided in E.O 13149, and other agency-developed approaches (see Section 6).
7. Communicate the plan to the agency's fleets and begin to work together to implement the plan.
8. Prepare a strategy and submit it to DOE by October 18, 2000, for review and approval.
9. Continue to work with fleets, identifying issues and revising the strategy as necessary.

4 How to Prepare a Petroleum Use Baseline

This section describes the process for determining an agency's baseline value for total transportation petroleum consumption in light-, medium-, and heavy-duty, on-road vehicles (based on FY 1999 petroleum use). This value will be used to measure the reduction in petroleum consumption achieved under E.O. 13149. Agencies must have access to the data on total gasoline and diesel consumption by its fleets, and calculate a 20 percent reduction in that petroleum use as their target for FY 2005.

Steps:
1. Obtain data on petroleum use in all of the agency's on-road vehicles for FY 1999 (purchased, owned, or leased) at the agency level or from individual fleets. (A worksheet can be found at the end of this section; see also Table A-11, Appendix A, for summary of data collected on the sample agency's fleets.)

2. In collecting petroleum-use data, keep the gasoline totals separate from diesel fuel totals, and data on petroleum use by excluded vehicles and vehicles exempt under E.O. 13149 (law enforcement, emergency, and military tactical vehicles) separate from covered vehicles.

Tips:
DOE's experience indicates that agency-level data is more accurate than individual-fleet data since some fleets have experienced difficulties in obtaining accurate petroleum use data.

The information on petroleum use in leased vehicles is available from General Services Administration: call Kurt Ettenger at 703-305-6896. The Voyager charge card is presently used to track petroleum use in GSA-leased vehicles.

For agency-owned vehicles not leased from GSA, contact the credit card vendor used by the agency, or use the agency's annual report to the Federal Energy Management Program (FEMP), and SF-82 reports.

If non-road vehicles and equipment consume a significant fraction of total petroleum use, that value must be subtracted from the value for total petroleum use (see Step 6 below). (The 20 percent reduction in petroleum use applies only to vehicles certified for use on all public roads and highways.)

Exclude petroleum used by any law enforcement (LE), emergency, and

military/tactical (MT) vehicles in the fleet, which are exempt from E.O. 13149 requirements (see Step 5 below). If there are only a few exempt vehicles, the average mileage and fuel economy for each vehicle may be estimated and the corresponding gallons of petroleum excluded from the total.

3. Convert the value for diesel gallons to gallons of gasoline equivalent, using the following equation:

Diesel gallons X 1.12 = gallons of gasoline equivalent (gge)

Tip:
Diesel and gasoline have a different energy content per gallon, so this conversion is necessary to make a valid comparison.

4. Combine data from purchased/owned and leased vehicles for both gasoline (gal) and diesel (gge) fuel, if this was not done previously.

5. Calculate total petroleum use to obtain agency's FY 1999 Baseline value:
Gal gasoline + gge diesel – (petroleum use in LE, emergency, MT, and non-road vehicles and equipment) = FY 1999 Baseline

6. Calculate 20 percent of the baseline value, the target value for achieving a 20 percent reduction in petroleum use.

Tip:
DOE recognizes that each agency may have its own goals related to petroleum use reduction that must be met in addition to the goal set by E.O. 13149. DOE fleets, for example, must meet the Petroleum Reduction and Energy Efficiency (P2E2) goals announced by the Secretary of Energy.

The following table may be used as a worksheet to record the data for the agency's 1999 fleet petroleum use, and for calculating the 20 percent petroleum reduction to be achieved.

Worksheet for Preparing a Petroleum Use Baseline

Fleet location or Indicate if Agency-wide	Total gasoline use (gal)	Total diesel use (gge)[1]	Non-road gasoline use (gal)	Non-road diesel use (gge)[1]	Exempt gasoline use (gal)	Exempt diesel use (gge)[1]	Covered gasoline use (gal)[2]	Covered diesel use (gge)[1, 3]	TOTAL COVERED PETROLEUM USE (gge)[4]

Total Agency-Wide Petroleum Use (Baseline) (gge)[5]: _____

Required 20% reduction in petroleum use (gge)[6]: _____

[1] Diesel gallons X 1.12 = gallons of gasoline equivalent (gge)
[2] Total gallons gasoline – (gasoline use in non-road and exempt vehicles) = covered gasoline use
[3] Total gge diesel – (diesel use in non-road and exempt vehicles) = covered diesel use
[4] Total fleet petroleum use = total covered gal gasoline + total covered gge diesel
[5] Total agency-wide covered petroleum use (baseline) = sum of all total covered petroleum use values
[6] Required 20% = Baseline X 0.20

5 How to Calculate the Fuel Economy Baseline

Executive Order 13149 specifies acquiring vehicles with a higher fuel economy as one of two required methods for achieving a 20 percent reduction in petroleum use. An agency must show that its fleets' Average Fuel Economy for conventional light-duty vehicles has improved by 1 mpg in FY 2002 and by 3 mpg in FY 2005, for vehicles the agency purchases in 2002 and 2005, respectively. To establish this, the agency must first know its baseline value for Average Fuel Economy, based on new light-duty acquisitions in FY 1999.

It is important to understand that *Average Fuel Economy is calculated only for the conventionally fueled, light-duty vehicles acquired by the fleet, not the AFVs*. For FY 1999 and beyond, EPAct requires 75 percent of a Federal fleet's covered light-duty vehicle acquisitions to be purchased as AFVs. Therefore, the Average Fuel Economy is based on the non-AFV, light-duty purchases in each year.

Hybrid vehicles are a good example of a higher fuel economy vehicle and will become attractive to fleets as more models become available. Fleets should also be watching for manufacturers to offer improved fuel economy on many non-hybrid models in the next five years.

Specific goals only apply to new vehicles acquired in 2002 and 2005 for measuring improvements in fuel economy, but agencies will monitor progress in improving the Average Fuel Economy year to year. Be sure to exclude the exempt vehicles (law enforcement, emergency, and military tactical) and non-road vehicles before calculating the Average Fuel Economy for acquired vehicles.

The steps for calculating Average Fuel Economy follow.

Steps:
1. Obtain the Average Fuel Economy Worksheet from the Fed Fleet Web site, www.ott.doe.gov.epact/federal_fleet.

Tips:
The program is in Excel format.

This worksheet contains the vehicle types that were commonly acquired by Federal fleets in FY 1999, and is an abbreviated version of the list of vehicles in the annual DOE/EPA Fuel Economy Guide.

Only conventionally fueled vehicles acquired in FY 1999 are to be included in this calculation (i.e., do not include AFVs, MDVs, HDVs, non-road vehicles).

2. Obtain a list of FY 1999 *leased* vehicle acquisitions from GSA (call Kurt Ettenger at 703-305-6896).

3. Obtain information on FY 1999 *purchased* vehicle acquisitions from the GSA Automotive Division, at (703) 308-CARS, as well as on any non-GSA agency purchases.

4. Open the Average Fuel Economy Worksheet (Step 1), locating the types of vehicles in the left-hand column that were acquired by the agency fleets; enter the number of vehicles acquired of each type in the column toward the right.

Tips:
The fuel economy value is already associated with each vehicle listed on the worksheet.

In most cases vehicles will be on the worksheet, but If a significant number of light-duty vehicles were acquired of types that are not included in the list, enter their information in the extra spaces found at the bottom of the list. Put in make, model, engine size in cylinders, and whether 4X2 or 4X4 drive. Use the 1999 Fuel Economy Guide posted on the Fed Fleet Web site, www.ott.doe.gov.epact/federal_fleet, to insert the appropriate fuel economy values for city and highway driving for those exact vehicles. If several options are listed in the guide for the particular vehicle, average the fuel economy values and enter the average value in the right column.

If more than ten vehicle types must be added to the worksheet, call DOE for assistance (800-254-6735).

5. The Average Fuel Economy value will be automatically calculated and entered in the cell at the bottom of the worksheet.

6 Deciding Which Strategic Approaches Work Best for the

Agency's Fleets

In this analysis, consider the entire agency fleet or concentrate on a subset of key fleets. The strategy should be implemented fleet-by-fleet, if some fleets would not be able to meet an "average" across-the-board reduction in petroleum use prescribed for each agency fleet. Fleets in a good position to over-comply because of, for example, their access to alternative fuels, should be expected to compensate for fleets less able to meet an average reduction value, perhaps because of their fleet mission or geographical location.

Consider first the required technical components of the strategy:

Required Technical Components:
To ensure a 20 percent reduction in petroleum use, agencies are required to carry out the following:

- Use alternative fuels in alternative fuel vehicles (AFVs) the majority (more than 50 percent) of the time the vehicles are in use.
- Improve the average fuel economy of newly acquired, petroleum-fueled, light-duty agency vehicles by 1 mpg by FY 2002 and by 3 mpg by FY 2005.

If either of these two requirements is not achievable by the agency's fleets and another approach has been identified for attaining a 20 percent reduction in petroleum use, *contact the Federal Fleet Program Manager at 800-254-6735.*

Four general steps to analyzing the fleet:
1. Review the agency fleet as a whole and determine the suite of best methods for building the agency strategy.

Tip:
The sample agency (Appendix A) targeted 14 fleets, which comprise almost 80 percent of the agency's fleet vehicles and over 90 percent of its petroleum consumption. Choose a group of fleets whose vehicles represent at least 75 percent of the agency's total petroleum use.

2. Collect data from fleet managers on the parameters shown in Table A-4 of Appendix A for fleet fuel use in different vehicle categories, fleet inventory by class of vehicles, and AFV infrastructure availability. Collect data for 1999, 2000, 2001, and further projections if available.

Tip:
Data may be available from a variety of sources. For its strategy, the model agency obtained data from the fleet managers whenever possible. Other data was derived from the SF-82*; the* GSA Report on Federal Light-Duty Conventional and Alternative Fuel Vehicle Locations *(Keeling Report), online at www.policyworks.gov/org/main/mt/homepage/mtv/keelingreport.html.; previous AFV*

reports for E.O. 1303l; and the FEMP Annual Report to Congress on Federal Energy Management and Conservation Programs.

3. Develop unique compliance strategies for each fleet, or agency-wide, considering the required options first (see the box with "Required Technical Components," above). Additional strategic elements to consider include use of biodiesel fuel in the form of B20 in place of conventional diesel fuel; purchase of additional AFVs, and expansion of alternative fuel infrastructure to ensure alternative fuel use; purchase of hybrid vehicles and of more fuel-efficient conventional LDVs; and downsizing of vehicle sizes, improved fleet payload management, and other improvements in fleet efficiency.

Tips:
See Appendix A, Section I-4, Fleet Analysis, for a more extensive discussion of the compliance elements available.

Keep records on the assumptions made as the strategy is developed and include them in the strategy submission.

Consider partnering with Clean Cities stakeholders for alternative fuel infrastructure.

Consider cost savings in one area (e.g., vehicle downsizing) to make available funds for other requirements (e.g., dedicated vehicles).

4. "Roll-up" each individual fleet's strategy to form an overall agency-wide strategy that meets the goals of E.O. 13149.

7 How to Prepare the Strategy Submission

Follow the outline in Section 2 and the sample strategy in Appendix A in preparing the strategy for submission to DOE on how the agency will comply with the Executive Order. The strategy will consist of two parts: written text and tables.

Enter data (e.g., petroleum baseline, petroleum reduction achieved by each approach) into tables as described in Section 2 and illustrated in the appendix. There must be a summary table similar to Table A-11 of the appendix to facilitate accurate analysis by DOE.

The text should describe the reasoning behind the proposed method for reducing petroleum use by at least 20 percent by 2005 (some individual agency fleets may be less, some may be more). It is anticipated that fleets will use the two required methods for petroleum displacement (using alternative fuels in AFVs the majority of the time and improving the average fuel economy of newly acquired light-duty agency vehicles) as well as some or all of the other compliance options (see Section I-4 of Appendix A).

Should an agency have additional methods for achieving the 20 percent goal, they must contact DOE's Fed Fleet Program early for review of these methods (800-254-6735).

The suggested formatting of the Strategy Report follows:

- 12-point Arial font
- Left justification
- Single-spaced lines, double-spaced paragraphs
- 1-inch margins, tops and sides, and 1-1/4-inch margin, bottom
- Page numbers centered at bottom
- Agency identified in title on cover page and on each page of document

8 How to Submit the Strategy

The strategy development team may send a draft copy of the agency's strategy via email to Ms. Shab Fardanesh: shabnam.fardanesh@ee.doe.gov, or by fax: 202-586-1610.

Each agency's designated senior level official must submit the final strategy to DOE no later than October 18, 2000. Strategies should be submitted to:

Mr. Dan Reicher
Assistant Secretary for
Energy Efficiency and Renewable Energy, EE-1
U.S. Department of Energy
1000 Independence Ave, S.W.
Washington, DC 20585

On November 1, 2000, and annually thereafter, each agency will submit an Annual Report to DOE on the agency's progress in meeting the goal of E.O. 13149. DOE will compare the data in the Annual Report to that in the agency's strategy to determine if the agency is meeting the requirements. Further guidance on preparing this Annual Report will be found in the companion publication, *Federal Fleet Data Reporting Supplement*, which will be available from DOE in the fall of 2000.

9 Tools To Help

A number of tools have been mentioned throughout this guide that are available to assist agencies in preparing a strategy. They are presented together in this section for convenience.

- Department of Energy, Federal Fleet Program Manager (800-254-6735)
- *E.O. 13031 AFV Acquisition and Alternative Fuel Use Report* (report sent annually to OMB by each agency on compliance with E.O. 13031; report available at agency's headquarters);
- *E.O. 13149*, *Guidance Document for Federal Fleets,* available online at www.ott.doe.gov/epact/pdfs/eoguidance.pdf (or call 1-800-254-6735 to obtain a copy)
- Fed Fleet Web site: www.ott.doe.gov/epact/federal_fleets
- Federal Energy Management Program (FEMP), *Annual Report to Congress on Federal Energy Management and Conservation Programs* (order online at www.eren.doe.gov/femp/ordermaterials.html)
- The fleet managers themselves
- Information on GSA-leased vehicle acquisitions and fuel use, General Services Administration (call Kurt Ettenger at 703-305-6896)
- Information on fuel use by non-GSA-leased vehicles, from credit card vendor used by agency
- Information on vehicles purchased from GSA (call the GSA Automotive Division, at [703] 308-CARS)
- *Keeling Report (*the *GSA Report on Federal Light-Duty Conventional and Alternative Fuel Vehicle Locations); online at www.policyworks.gov/org/main/mt/homepage/mtv/keelingreport.html.*
- *SF-82 Report* (data collected annually by GSA, on agency-owned and commercially leased vehicles, to analyze trends in the Federal transportation

sector; contact the agency's headquarters to obtain the agency's FY 1999 input into SF-82)

APPENDIX A:

Agency X Compliance Strategy for E.O. 13149

September 11, 2000

Introduction to Agency X Strategy Development

This appendix describes the general approach taken in developing a strategy for a generic Federal agency to comply with E.O. 13149. The agency will be identified as "Agency X" throughout the appendix. The approach entailed a review of the agency's fleet as a whole, identification of favorable individual fleet locations, development of unique compliance strategies for those locations, and a "roll-up" of each individual location's strategy to form an overall agency-wide strategy that meets the goals of E.O. 13149. The specific steps taken are summarized in the attached Federal Fleet Strategy Development Supplement. *The resulting strategy provides Agency X with a compliance plan that is consistent with the needs of its agency fleet and the requirements of individual fleet locations. It is also focused yet flexible, and has a high probability of success in achieving the required petroleum reduction goals. Other Federal agencies may use this strategy as a model for preparing their own compliance strategies.*

Agency X Compliance Strategy for E.O. 13149

Executive Summary

Agency X has developed a comprehensive strategy to comply with the requirements of Executive Order (E.O.) 13149. This strategy includes the use of biodiesel in diesel vehicles, the use of alternative fuels in alternative fuel vehicles (AFV), the acquisition of light-duty vehicles with higher fuel economy, and improvements in the overall efficiency of vehicles operated by the agency's fleets. Table A-1 summarizes the estimated petroleum use reduction that will be achieved by each component of Agency X's compliance strategy. The quantities in the table are given in gasoline gallon equivalents (GGE). Specific details on how each of these reductions will be achieved are provided in Section I-4 of this strategy. As shown in Table A-4, in fiscal year (FY) 2005 the strategy will achieve a 35.5 percent reduction in the agency's on-road vehicle petroleum consumption, which far exceeds the 20 percent reduction goal of E.O. 13149.

Table A-1. Estimated FY 2005 Petroluem Reduction by Strategy Approach

Reduction by Strategy Approach			**Total Petroleum Reduction in FY 2005**	
Use of Biodiesel	Use of Alternative Fuels	Fuel Economy/ Fleet Efficiency Improvements	GGE	% Reduction
462,167	1,478,190	319,353	**2,259,710**	**35.5**

I. Data Collection

In order to develop a strategy for Agency X to comply with the petroleum use reduction goal of E.O. 13149, the agency first conducted an extensive data collection effort. Table A-2 shows the types of data collected for each of the agency's fleets, and the sources used. The data collected was then used to develop the baseline petroleum consumption, the baseline acquisitions' average fuel economy, and a realistic strategy for achieving the goals of E.O. 13149.

Table A-2. Data Requirements

Data Requirement	Information/Data Source
FY 1999 Petroleum Fuel Use (gallons) - Total , non-road, and exempt vehicle fuel use	- SF-82 report - FEMP report
Fleet Composition and Characteristics - FY 1999 inventory and new acquisitions (conventional and alternative fuel vehicles; light-, medium-, and heavy-duty; gasoline and diesel) - FY 1999 new acquisition model breakdown - FY 2000 and FY2001 projected inventories and new acquisitions(conventional and alternative fuel vehicles; light-, medium-, and heavy-duty; gasoline and diesel) - Number of exempt (security, military, etc.)	- SF-82 report - FEMP report - GSA Automotive Division - GSA Fleet Division - GSA Keeling Report, www.policyworks.gov - Agency X vehicle report - Fleet manager interviews

vehicles purchased in FY1999 and their annual fuel consumption	
Combined Fuel Economy Ratings by Light Duty Vehicle Category (subcompact, compact, etc.)	- DOE/EPA Fuel Economy Guide, MY 1999

I-1. Agency X Baseline Petroleum Use

The agency-wide fleet use of gasoline and diesel fuel was determined for FY 1999, for both covered and non-covered vehicles. The non-road and exempt fuel use was subtracted out of total fuel use to establish the agency's baseline (for FY 1999). This baseline was then multiplied by 20 percent to determine the required reduction goal.

A summary of the agency-wide fuel use in FY 1999 appears in Table A-3. For FY 1999, the Agency X fleets used about 7.3 million GGE of petroleum fuel nationwide, with slightly more than half of this (on both a gallon and GGE basis) made up of gasoline. This data was based upon the Annual Report to Congress on Federal Government Energy Management and Conservation Programs (FEMP) and information provided to the General Services Administration for the FY 1999 SF-82 report.

Table A-3. Agency X Agency-wide Petroleum Usage for FY 1999

Fuel Type	Total Agency X Petroleum Usage, FY 1999 (Gallons)	GGE Conversion Factor	Total Agency X Petroleum Usage, FY 1999 (GGE)
Gasoline	3,916,200	1.0	3,916,200
Diesel Fuel	3,014,000	1.12	3,375,680
Total Petroleum Used			7,291,880

Table A-4 provides a breakdown of Agency X petroleum use in FY 1999. Non-road and exempt petroleum use figures in Table A-4 represent data collected for only a portion of the agency's fleet locations. Data will be collected later for the remaining Agency X fleet locations and the strategy updated appropriately. Based on the 20 percent petroleum use reduction required by E.O. 13149, Agency X's overall compliance strategy must achieve a total petroleum use reduction of about 1.3 million GGE in FY 2005.

Table A-4. FY 1999 Petroluem Fuel Use Breakdown for Agency X

Agency X Agency-wide Petroleum Use (GGE)	Non-road Petroleum Use (GGE)	Exempt Petroleum Use (GGE)	Total Covered Petroleum Use (GGE)	Baseline Petroleum 20% Reduction Goal (GGE)
7,291,880	775,868	145,994	6,370,018	**1,274,004**

I-2. Agency X Fleet Characteristics

The Agency X fleet is comprised of more than fifty individual vehicle locations across the country and includes program and operational offices. Additionally, fleet sizes ranged from several thousand to less than a dozen at each location. Because of this complexity in the Agency X fleet structure, the decision was made to develop a compliance strategy based on parameters of individual fleet locations rather than on an agency-wide basis.

To achieve the greatest impact from the location-based strategy, the primary focus was placed on fourteen larger Agency X fleet locations that have higher fuel consumption and the economic potential for having available refueling infrastructure and vehicle maintenance support for AFVs.

The fourteen fleets incorporated over 80 percent of the vehicles and over 90 percent of the petroleum consumption of the Agency X fleet. These fleets were selected for implementing this strategy. Table A-5 summarizes the data on petroleum use and fleet inventory collected from these fourteen fleets.

Table A-5. Selected Fleet Locations for Agency-Wide Strategy

Agency X Fleet Location	FY1999 Total Petroleum Use (GGE)	FY1999 Covered Petroleum Use (GGE) +	FY 1999 Fleet Inventory		
			LDV	MDV	HDV
Location A	189,794	189,794	154	210	161
Location B	156,815	152,327	254	49	32
Location C	144,007	144,007	133	81	16
Location D	1,046,632	1,007,074	698	15	249
Location E	110,663	109,565	191	56	39
Location F	475,205	457,905	592	342	28
Location G	506,795	476,915	813	510	115
Location H	16,906	15,442	36	12	0
Location I	1,695,254	1,285,198	1,040	170	257
Location J	875,762	864,310	2,010	233	117
Location K	337,028	337,028	271	7	16
Location L	552,607	552,607	820	142	24
Location M	285,367	271,135	413	320	30
Location N	702,960	365,626	1472	0	87
Totals	7,095,795	6,228,934	8,897	2,147	1,171

Sources: Agency X Vehicle Information System, GSA SF-82 report (1999).

The remaining Agency X fleet locations not included in the strategy are encouraged to reduce their petroleum use in accordance with the Executive Order, and will participate in the acquisition of higher fuel economy vehicles. In addition, all Agency X fleet locations are required to meet other internal or external fuel or energy reduction mandates.

I-3. Basic Assumptions

A variety of basic assumptions were necessary in developing the Agency X strategy and included all of the following:

- Biodiesel and E85 supplies are generally available or would become available in the near-term. Natural gas and electricity supplies were assumed to be currently available at each fleet location.
- Projected non-AFV acquisition rates for FY 2001 are assumed the same through FY 2005.
- Projected AFV acquisition rates for FY 2001 through FY 2005 are assumed to be 75 percent for all fleet locations.
- The mix of future AFV acquisitions is based on interviews with individual fleet managers as well as fleet projections of AFV acquisitions for FY 1999, FY 2000, and FY 2001.
- Light duty vehicle turnover in all Agency X fleet locations was assumed to be five years on average.
- New AFVs were assumed to use alternative fuel 75 percent and conventional fuel 25 percent of the time on an average annual basis.
- AFV refueling was assumed to follow an availability hierarchy: 1) Using an existing on-site station, 2) using an existing public station, 3) constructing a new on-site station.

I-4. Fleet Analysis

Previous Agency X analyses indicated that simply purchasing AFVs for the Agency X fleet under EPAct mandates and using biodiesel at current consumption rates within the fleet would not result in the required 20 percent reduction in petroleum use by FY 2005. Therefore, a more comprehensive strategy was developed for reaching the 20 percent reduction goal.

It was decided that the Agency X compliance strategy would consist of four primary elements:

(1) Biodiesel Blend (B20) use
(2) AFV Acquisitions and Alternative Fuel Use
(3) Acquisition of Higher Fuel Economy Vehicles
(4) Fleet Efficiency Improvements.

These options were chosen for their significant potential for petroleum fuel savings in the Agency X fleet. An analysis was performed for each element to determine its potential for reducing petroleum fuel use in the fourteen Agency X fleets. Brief discussions of each of the four elements and their application in the strategy follow. (Each discussion begins with a table showing that approach's petroleum reduction contribution to the strategy.)

(1) Biodiesel Blend Use

Table A-6. Summary of B20 Use in Agency X Strategy

Total Agency Covered Fuel Use in FY 99 (GGE)	20% Fuel Reduction Goal (GGE)	Strategy Element 1: B20 Fuel Savings (GGE)	Percent of Agency Fuel Reduction Goal
6,370,018	1,274,004	462,167	36%

Discussion of B20

As the first element of Agency X's strategy, B20 fuel was assumed to be used in place of conventional diesel fuel at the fourteen fleet locations for both vehicular and non-road diesel equipment. This B20 strategy resulted in an 18 percent GGE savings in annual diesel fuel usage at each fleet location, because every gallon of B20 used displaces about 18 percent of conventional diesel fuel when adjusted for fuel energy content. In terms of Agency X's overall fuel reduction goal, the use of B20 at the targeted fleet locations achieves about 36 percent of the total goal.

Since B20 can be used in any diesel-powered engine with little or no engine modifications, both on-road and non-road vehicles and equipment can be operated on B20. For fleet locations without existing on-site B20 storage and dispensing systems, such systems would have to be installed or existing diesel tanks converted to biodiesel storage. These features make B20 a very cost-effective option for reducing petroleum fuel use in the Agency X fleet.

(2) AFV Acquisitions and Alternative Fuel Use

Table A-7. Summary of AFV Fuel Savings

Total Agency Covered Fuel Use in FY 99 (GGE)	20% Fuel Reduction Goal (GGE)	Strategy Element 2: AFV Fuel Savings (GGE)	Percent of Agency Fuel Reduction Goal
6,370,018	1,274,004	1,478,190	116%

Discussion of AFV Acquisitions and Alternative Fuel Use

AFV Acquisitions. Future AFV acquisitions for each fleet location were first estimated. AFV acquisition rates for each fleet location for FY 2001 and later were set at 75 percent of total vehicle acquisitions. This provides an aggressive AFV introduction rate through FY 2005 for the strategy and is an extremely effective means of achieving fuel reductions in the Agency X fleet. For those fleet locations covered by the Energy Policy Act of 1992 (EPAct) (eight of the fourteen are EPAct-covered fleets), the 75 percent AFV acquisition rate is consistent with EPAct requirements.

While individual Agency X fleets are encouraged to purchase dedicated vehicles, bi-fuel and flexible fuel vehicles will also be acceptable. However, the strategy assumed that on average new AFVs would use alternative fuel at least 75 percent of the time each year. Therefore, Agency X fleets can purchase a mix of dedicated, bi-fuel, and flexible fuel vehicles as long as this AFV mix uses at least 75 percent alternative fuel annually. Agency X fleet managers will be held responsible for meeting and maintaining the 75 percent alternative fuel use requirement among their AFV fleets.

Alternative Fuel Use. The acquisition of AFVs will be coupled with the use of alternative fuels 75 percent of the time in these vehicles. AFV fleet fuel consumption in FY 2005 was derived by first estimating the numbers of AFVs in service. Since a five-year light duty vehicle turnover was assumed, only those AFVs purchased in FY 2001 through FY 2005 would still be in service in FY 2005. The amount of petroleum fuel displaced by the AFVs was estimated by multiplying the numbers of AFVs by the annual per vehicle fuel consumption rate of the light duty gasoline vehicles being displaced. The annual per vehicle fuel consumption rate was calculated from the fleet's FY 1999 gasoline usage and numbers of light duty gasoline vehicles. For some fleets, this meant first subtracting out estimated gasoline usage by medium and heavy-duty vehicles. An example for the Location B fleet follows:

Fleet Gasoline Usage in FY 1999 = 137,514 GGE
Number of Light Duty Gasoline Vehicles in FY 1999 = 229
Average Annual Light Duty Gasoline Vehicle Fuel Rate = 137514/229 = 561 GGE
Projected Numbers of New AFVs in Service in FY 2005 = 75
Percentage of Alternative Fuel Use Used by AFVs = 75%
*Total Petroleum Fuel Displaced by AFVs in FY 2005 = 561*75*0.75* = **31,556 GGE**

As shown in the summary table above, a total of 1,478,190 GGE are saved with this approach, which is 16 percent higher than the overall fuel reduction goal of 1,274,004 GGE.

AFV refueling infrastructure. Agency X fleet managers recognize that the use of alternative fueled vehicles is the most effective means of reducing petroleum fuel use if they are operated on alternative fuels. Therefore, key factors in assigning AFVs to fleet locations will be the availability of on-site or public AFV refueling stations, and a commitment by vehicle operators to using alternative fuels a substantial part of the time in these vehicles. If alternative fuels are not available, provisions must be made for installing AFV refueling equipment. Because of the additional costs associated with using AFVs compared with conventional vehicles, careful consideration will be given for placing these vehicles in appropriate fleets.

Infrastructure requirements were assessed for serving the projected AFV populations at each fleet location. If an AFV refueling station already exists on-site at the fleet location, the future AFVs were assumed to refuel using that

station. If an on-site station does not exist, but a public station is available, the projected AFVs were assumed to use the public station. And if neither an on-site nor a public station is available for a fleet location, it was assumed a new AFV on-site refueling station will be needed at that location. The status of on-site and public refueling stations was determined through fleet interviews and through the use of the U.S. Department of Energy's (DOE's) Alternative Fuel Data Center's AFV refueling locator (www.afdc.doe.gov).

The costs of the new on-site stations were estimated based on installation costs reported in the technical literature, and are shown in Table A-8. Total AFV fleet refueling infrastructure costs for Agency X were estimated at about $1,075,000.

Table A-8. Projected AFV Refueling Infrastructure Costs

Agency X Fleet Location	Available On-Site or Public AFV Refueling?	AFV Refueling Infrastructure Costs ($)		
		E85	CNG	Electric
Location A	No	20,000	250,000	---
Location B	No	20,000	250,000	---
Location C	Yes (CNG)	20,000	---	---
Location D	Yes (L/CNG)	40,000	---	---
Location E	Yes (CNG)	20,000	---	20,000
Location F	Yes (CNG)	40,000	---	---
Location G	Yes (CNG, E85)	---	---	---
Location H	Yes (CNG, E85)	---	---	---
Location I	No	40,000	275,000	---
Location J	Yes (CNG)	40,000	---	---
Location K	Yes (CNG)	20,000	---	---
Location L	No	20,000	---	---
Location M	Yes (CNG, E85)	---	---	---
Location N	Yes (E85)	---	---	---
Totals	---	$280,000	$775,000	$20,000

(3) Acquisition of Higher Fuel Economy Vehicles / Fleet Efficiency Improvements

Table A-9. Summary of Higher Fuel Economy Fuel Savings

Total Agency Covered Fuel Use in FY 99 (GGE)	20% Fuel Reduction Goal (GGE)	Strategy Element 3: Higher FE Fuel Savings (GGE)	Percent of Agency Fuel Reduction Goal
6,370,018	1,274,004	319,353	25%

Discussion of Higher Fuel Economy Fuel Savings

Fuel savings due to increases in the annual purchased fleet average fuel economy were estimated based on the projected numbers of petroleum-fueled light duty vehicle purchases over the period of FY 2001 through FY 2005, and the annual per
vehicle fuel consumption rates of these vehicles. Due to the importance of this strategy element, and to achieving some equity among Agency X fleets in sharing the burden of this compliance strategy, it was decided that all Agency X fleet locations would be required to meet the higher fuel economy schedule, not just the fourteen targeted locations.

It was assumed that the Agency X fleet would meet the increased average fuel economies of 1.0 mpg by FY 2002 and 3.0 mpg by FY 2005 compared with the FY 1999 baseline by pursuing the following schedule for fleet fuel economy increases in new acquisitions between 2001 and 2005:

- *0.5 mpg increase in FY 2001*
- *1.0 mpg increase in FY 2002*
- *2.0 mpg increase in FY 2003*
- *2.5 mpg increase in FY 2004*
- *3.0 mpg increase in FY 2005*

For ***each*** Agency X fleet location (since all fleets will participate in this element), FY 1999 baseline average fleet fuel economies were calculated for the vehicle types acquired in that year. For some fleet locations, the baseline fuel economies were calculated from the actual new model acquisitions in FY 1999 and DOE/EPA's Fleet Fuel Economy Guide. However, for most fleet locations data was only available for vehicle class and size, not models. As a result, baseline fuel economies were estimated for these vehicles. These estimates were derived by first putting the light duty vehicle acquisitions into size categories, then obtaining the average fuel economies for those categories from the DOE/EPA's Fuel Economy Guide. In all cases, average fuel economies were calculated using the harmonic averaging method, as described in DOE's guidance document for Federal agencies on E.O. 13149[1].

It was assumed that the schedule for achieving a minimum fuel economy increase from 2001 through 2005 would be met by individual fleets acquiring more appropriate vehicle types with smaller engine sizes and two-wheel versus four-wheel drives, as well as gasoline hybrid vehicles. However, it is left to the individual fleets to decide the best means of achieving the fuel economy increases through their annual vehicle acquisitions.

Table A-10 presents data from Agency X's Fleet Location B to derive the fuel savings achieved at this location by acquiring higher fuel economy vehicles:

[1] Executive Order 13149: Greening the Government through Federal Fleet and Transportation Efficiency, guidance Document for Federal Agencies, prepared by U.S. Department of Energy, Office of Technology Utilization, July 2000.

Table A-10. The Acquisition of Higher Fuel Economy Vehicles of a Sample Fleet (Location B)

	FY2001	FY2002	FY2003	FY2004	FY 2005
New LDVs	5	5	5	5	5
Annual GGE/New LDV	545	530	503	490	478
Fuel Usage for New LDVs (GGE)	2725	2650	2515	2450	2390
Fuel Usage for FY 1999 LDVs at 561 GGE/LDV (GGE)	2805	2805	2805	2805	2805
Fuel Saved (GGE)	80	155	290	355	415
Total Fuel Saved in FY2005 (GGE)					**1,295**

In this example, the annual per vehicle fuel consumption rates for the new light duty vehicles (LDV) were calculated from the original per vehicle fuel consumption rate for FY 1999 (561 GGE for Location B), the increased fleet average fuel economy for the given fiscal year (e.g., 18.0 mpg in FY 2001), and the original FY 1999 fleet average fuel economy (17.5 mpg), as follows:

*Annual GGE/New LDV for FY 2001 = 561*17.5/18.0 = 545 GGE*

Fuel savings with higher fuel economy vehicles was estimated to be 81,730 GGE.

Discussion of Fleet Efficiency Improvements

The strategy requires that each fleet location will put in place an improvement plan that achieves a minimum of 2 percent reduction in overall fleet petroleum fuel consumption relative to the baseline. For a small number of Agency X fleet locations whose petroleum reductions were low under the first three elements of the strategy, a minimum of 10 percent reduction in overall fleet petroleum fuel use was assigned in order to achieve higher overall fuel reductions for those locations.

The Agency X strategy does not stipulate which types of efficiency improvement techniques must be instituted by the individual fleet locations. Fleet managers will assess their fleet's efficiency in accomplishing their mission. Using compact sedans in preference to large sedans, rescheduling or combining routes to increase vehicle passenger capacities, and decreasing vehicle trips per day will all be considered to achieve a reduction in petroleum use. An added benefit of these improvements could be increased personnel productivity.

The agency-wide fleet efficiency improvements should result in about 237,600 GGE of petroleum reduction. This is equal to about 19 percent of the total fuel reduction goal of 1,274,004 GGE.

II. Results of Agency X Strategy

The results of the Agency X strategy development are provided in Table A-11. Estimated fuel savings are shown for each Agency X fleet location. Under this strategy, the largest fuel savings will be achieved through the acquisition of AFVs. The fleet location projected to have the largest total fleet fuel reduction is Location I with savings of about 532,800 GGE. Two sites (J and L) are projected to reduce their fleet fuel usage by less than the 20 percent goal. However, the strategy's agency-wide fleet fuel reduction of about 2.2 million gallons is equal to about a 36 percent decrease relative to the FY 1999 covered fuel baseline, far in excess of the 20 percent goal.

In addition, the Agency X strategy achieves both performance measures established by E.O. 13149. The order requires the use of alternative fuels in AFVs the majority (greater than 50 percent) of the time, and requires the purchase of higher fuel economy petroleum fueled vehicles to achieve the 1.0 mpg increase in fleet average fuel economy by FY 2002, and the 3.0 mpg increase by FY 2005.

Compliance with this strategy will be reviewed each year and adjustments made as necessary to keep pace with evolving fleet requirements of Agency X.

III. Recognition and Awards

As part of its strategy, Agency X is considering special recognition or awards for its personnel and/or fleets that exceed the strategy's requirements or exhibit leadership in attaining its objectives and the goals of the Executive Order. The nature of this recognition has not yet been determined, but a ceremony will be held at the agency's headquarters to recognize the awardees.

Table A-11. Agency X Compliance Strategy Results

Bureau	Bureau Sr. Contact	Targeted Agency X Location	FY 1999 Fleet Fuel Use				Baseline LDV FE (mpg)	FY 1999 Fleet Inventory				Required On-site AFV Infra Costs	Agency X Strategy Fuel Savings in FY 2005 (GGE)			Total FY 2005 Savings	
			Total Fuel Use (GGE)	Non-Road Fuel use (GGE)	Exempt Fuel Use (GGE)	Total Covered Fuel Use (GGE)		LDV	M/HDV	AFV	Exempt Vehicles		Biodiesel	AFV Use	Fuel Economy/ Fleet Efficiency Improvements	GGE	% Reduction
Bureau 1	Contact 1	Location A	189,794	-	-	189,794	16.7	154	371	19	0	$270,000	29,172	24,056	4,810	58,037	30.6
Bureau 2	Contact 2	Location G	506,795	-	29,880	476,915	16.5	813	625	83	72	0	31,332	96,488	12,186	140,006	29.4
		Location I	1,695,254	397,708	12,348	1,285,198	16.8	1,040	427	111	9	$315,000	105,085	385,875	41,847	532,807	41.5
		Location K	337,028	-	-	337,028	16.8	271	23	63	0	$20,000	21,322	103,935	11,389	136,646	40.5
		Location M	285,367	-	14,232	271,135	16.5	413	350	84	24	0	10,471	71,160	8,572	90,203	33.3
Bureau 3	Contact 3	Location H	16,906	-	1,464	15,442	-	36	12	14	2	0	149	13,451	309	13,908	90.1
Bureau 4	Contact 4	Location D	1,046,632	-	39,558	1,007,074	16.4	698	264	125	57	$40,000	119,991	67,665	23,133	210,789	20.9
		Location L	552,607	-	-	552,607	16.4	820	166	85	0	$20,000	33,150	15,240	55,755	104,145	18.8
		Location N	702,960	328,160	9,174	365,626	16.0	1,472	87	284	33	0	68,982	248,775	14,316	332,074	90.8
Bureau 5	Contact 5	Location B	156,815	-	4,488	152,327	17.5	254	81	9	8	$270,000	3,570	31,556	4,339	39,465	25.9
		Location C	144,007	-	-	144,007	-	133	97	19	0	$20,000	6,477	71,700	2,880	81,057	56.3
		Location E	110,663	-	1,098	109,565	21.2	191	95	4	3	$40,000	7,818	43,783	3,464	55,065	50.3
		Location F	475,205	-	17,300	457,905	17.9	592	384	112	20	$40,000	11,089	269,231	19,589	299,909	65.5
		Location J	875,762	-	11,452	864,310	17.3	2,010	350	66	28	$40,000	13,558	35,276	87,731	136,566	15.8
Total from targeted fleets			7,095,795	725,868	140,994	6,228,934	16.7	8,897	3,332	1,078	256	$1,075,000	462,167	1,478,190	290,321	2,230,678	35.8
Total from non-targeted fleets			196,685	50,000	5,000	141,685	17.1	202	40	65	20	0	---	---	29,032	29,032	20.5
Total Agency X Fleetwide			7,291,880	775,868	145,994	**6,370,018**	16.83	9,099	3,372	1,143	276	$1,075,000	462,167	1,478,190	319,353	**2,259,710**	**35.5**
Required 20% Fuel Use Reduction						**1,274,004**											

Attachments
Individual Agency X Fleet Location Analyses

LOCATION A

FUEL USE

	TOTAL1999 (GAL)	GGE	1999 NON-ROAD GAL	GGE	GAL	1999 EXEMPT GGE	TOTAL GGE	2005 GOAL GGE REDUCT
GASOL	32,074	32,074			0	0	32,074	
DIESEL	140,821	157,720					157,720	
TOTAL		189,794		-		-	189,794	37,959

FLEET DATA

	1999 INVENTORY	NEW TOTAL	NEW AFV	2000 INVENTORY		NEW TOTAL	NEW AFV	2001 INVENTORY	NEW TOTAL	NEW AFV
LDV	154	55	34	153		36	6	139	32	2
MDV	210			210				210		
HDV	161			161				161		
AFV	19									

	GASOL	DIESEL	EXEMPT	
LDV	135	0	0	Assumed all LDV gasoline; all M/HDV diesel
MDV		210	0	
HDV		161	0	

FLEET FUEL ECONOMY (NEW ACQUISITIONS)

Vehicle Type Make	Model	Cylinders	Drive	1999 Acquisitions		Fuel Economy Info City FE	Hwy FE	Combined FE		
Ford	MINICOMPACT				0				0	0
Ford	SUBCOMPACT			0				0	0	
	COMPACT					20.3	28.5	23	0	
	MIDSIZE			1		19.7	29	23	0.043436023	
	LARGE					18	25	21	0	
	TWO-SEATER							0	0	
	SMALL P/U			4		16.1	20.2	18	0.225754874	
	LARGE P/U			12		14.3	19.1	16	0.744260975	
	SMALL VAN			1		15.5	20.7	17	0.057223001	
	LARGE VAN			3		14.2	19.1	16	0.186877811	

Baseline Average FE	16.7
FY2002 FE Goal	17.7
FY2005 FE Goal	19.7

* Average fuel economy values estimated by category based on FY 1999 New GSA Leased Vehicles for fleet and fleet fuel economy guide

STRATEGY

1. BIODIESEL USE

- Assume diesel use remains constant through FY2005
- Assume total conversion to B20 by FY2005

FY 2005 Diesel (gal)	FY2005 B20 USE (gal)	EQUIV FY2005 FUEL DISPL (GGE)
140,821	143,567	29,172

2. AFV ACQUISITIONS

- AFV Refueling access (< 15 miles) = ???

- Location A not in MSA
- Non-AFV acquisition rates assumed same as FY2001

- Afv acquisition rates assumed 75% for FY2001 thru Fy2005

- All acquisitions assumed to be LDV

- LDV turnover assumed to be five years

- Mix of AFVs based on 1999 purchased (50% CNG; 50% E85)

- Avg annual LDV fuel use = 32074/(154-34) = 267 GGE

- Bi-fuel assumed to use CNG 75% of time; FFVs assumed 75% E85 use

	2000 Total	AFV	2001 Total	AFV	2002 Total	AFV	2003 Total	AFV
LDV	36	6	32	24	32	24	32	24
MDV								
HDV								

Total AFVs in Service in FY2005		Total AF Use in FY 2005 (GGE)	AFV Refueling Infra
CNG bi-fuel	60	12028	
E85 FFV	60	12028	
Total	120	24056	

3. Fuel Economy Increases

- Require gradually increasing FE consistent with FY02 and FY05 goals
  - FY01 = 0.5 mpg increase
  - FY02 = 1.0 mpg increase
  - FY03 = 2.0 mpg increase
  - FY04 =2.5 mpg increase
  - FY05 = 3.0 mpg increase
- Achieve increased FE through better selection of vehicle types, use of hybrids
- LDV turnover assumed to be five years
- Assume average new LDV in 1999 travels 4459 mi/yr based on 267 gal/yr and avg 16.7 mpg

	FY01	FY02	FY03	FY04	FY05
New LDV	8	8	8	8	8
gal/LDV	259	252	238	232	226
Total gal used	2074	2015	1908	1858	1811
Total gal saved	62	121	228	278	325

Total gal saved FY01 thru FY05 = 1014 GGE

4. Fleet Efficiency Improvements

- Reduced vehicle trips
- Increased vehicle loads
- More use of higher FE
- Assume overall two percent reduction in LDV fleet GGE from baseline

Covered Baseline GGE	Assumed 2% Savings (GGE)
189,794	3,796

OVERALL PETROL FUEL REDUCTIONS FOR LOCATION A STRATEGY

STRATEGY OPTION	FUEL SAVED (GGE)
1	29,172
2	24056
3	1014
4	3,796
TOTAL	58,037

LOCATION B

TOTAL FUEL USE

	1999 (GAL)	GGE	1999 NON-ROAD GAL	GGE	GAL	1999 EXEMPT GGE	TOTAL GGE	2005 GOAL GGE REDUCT
GASOL	137,514	137,514			4488	4488	133,026	
DIESEL	17,233	19,301					19,301	
TOTAL		156,815		-		4,488	152,326.96	30,465

FLEET DATA

	1999 INVENTORY	NEW TOTAL	NEW AFV	2000 INVENTORY	NEW TOTAL	NEW AFV	2001 INVENTORY	NEW TOTAL	NEW AFV
LDV	254	21	9	240	20	5	238	9	9
MDV	49	(assume all diesel)							
HDV	32	(assume all diesel)							
EXEMPT	8								

FLEET FUEL ECONOMY (NEW ACQUISITIONS)

Vehicle Type Make	Model	Cylinders	Drive	1999 Acquisitions	Fuel Economy Info City FE	Hwy FE	Combined FE		
Ford	MINICOMPACT				0			26	0
Ford	SUBCOMPACT			0			33	0	
	COMPACT				20.3	28.5	23	0	
	MIDSIZE				19.7	29	23	0	
	LARGE			2	18	25	21	0.097111111	
	TWO-SEATER						0	0	
	SMALL P/U			6	16.1	20.2	18	0.33863231	
	LARGE P/U				14.3	19.1	16	0	
	SMALL VAN				15.5	20.7	17	0	
	LARGE VAN			4	14.2	19.1	16	0.249170415	

Baseline Average FE	17.5
FY2002 FE Goal	18.5
FY2005 FE Goal	20.5

* Average fuel economy values estimated by category based on FY 1999 New GSA Leased Vehicles for fleet and fleet fuel economy guide

STRATEGY

1. BIODIESEL USE

- Assume diesel use remains constant through FY2005
- Assume total conversion to B20 by FY2005

FY2005 Diesel (gal)	FY2005 B20 USE (gal)	EQUIV FY2005 FUEL DISPL (GGE)
17,233	17,569	3,570

2. AFV ACQUISITIONS

- AFV Refueling access (< 15 miles) = LPG (private)
- Location B is in MSA
- Non-AFV acquisition rates assumed same as FY2000; AFV acquisition at 75% per EPACT
- All acquisitions assumed to be LDV
- LDV turnover assumed to be five years
- Mix of AFVs based on 1999 purchased (50% CNG; 50% E85)

- Avg annual LDV fuel use = 137514/(238-9) = 561 GGE

- Bi-fuel assumed to use CNG 75% of time; FFVs assumed 75% E85 use

	2000 Total	AFV	2001 Total	AFV	2002 Total	AFV	2003 Total	AFV
LDV	20	5	20	15	20	15	20	15
MDV								
HDV								

Total AFVs in Service in FY2005		Total AF Fuel Use (GGE) in FY2005
CNG bi-fuel	38	15778
E85 FFV	38	15778
Total	75	31556

3. Fuel Economy Increases

- Require gradually increasing FE consistent with FY02 and FY05 goals

  - FY01 = 0.5 mpg increase
  - FY02 = 1.0 mpg increase
  - FY03 = 2.0 mpg increase
  - FY04 =2.5 mpg increase
  - FY05 = 3.0 mpg increase

- Achieve increased FE through better selection of vehicle types, use of hybrids

- LDV turnover assumed to be five years
- Assume average new LDV in 1999 travels 9,817 mi/yr based on 561 gal/yr and avg 17.5 mpg

	FY01	FY02	FY03	FY04	FY05
New LDV	5	5	5	5	5
gal/LDV	545	530	503	490	478
Total gal used	2724	2650	2515	2452	2392
Total gal saved	81	155	290	353	413

Total gal saved in FY05 = 1293 GGE

4. Fleet Efficiency Improvements

- Reduced vehicle trips
- Increased vehicle loads
- More use of higher FE

- Assume overall two percent reduction in LDV fleet GGE from baseline

Covered Baseline GGE	Assumed 2% Savings (GGE)
152,327	3,047

OVERALL PETROL FUEL REDUCTIONS FOR LOCATION B STRATEGY

STRATEGY OPTION	FUEL SAVED (GGE)
1	3,570
2	31556
3	1293
4	3,047
TOTAL	39,465

LOCATION C

TOTAL FUEL USE

	1999 (GAL)	GGE	1999 NON-ROAD GAL	GGE	GAL	1999 EXEMPT GGE	TOTAL GGE	2005 GOAL GGE REDUCT
GASOL	108,989	108,989			0	0	108,989	
DIESEL	31,266	35,018					35,018	
TOTAL		144,007		-		-	144,007	28,801

FLEET DATA

	1999 INVENTORY	NEW TOTAL	NEW AFV	2000 INVENTORY	NEW TOTAL	NEW AFV	2001 INVENTORY	NEW TOTAL	NEW AFV
LDV	133	9	9	125	24	24	125	26	26
MDV	81			81	9	9	81	9	9
HDV	16			16			16		
AFV	19								

	GASOL	DIESEL	EXEMPT
LDV	114	1	0
MDV	0	81	
HDV	0	16	

FLEET FUEL ECONOMY (NEW ACQUISITIONS)

Vehicle Type Make	Model	Cylinders	Drive	1999 Acquisitions	Fuel Economy Info City FE	Hwy FE	Combined FE		
Ford	MINICOMPACT				0			26	0
Ford	SUBCOMPACT			0			33	0	
	COMPACT			0	20.3	28.5	23	0	
	MIDSIZE			0	19.7	29	23	0	
	LARGE			0	18	25	21	0	
	TWO-SEATER			0			0	0	
	SMALL P/U			0	16.1	20.2	18	0	
	LARGE P/U			0	14.3	19.1	16	0	
	SMALL VAN			0	15.5	20.7	17	0	
	LARGE VAN			0	14.2	19.1	16	0	

Baseline Average FE	-
FY2002 FE Goal	#VALUE!
FY2005 FE Goal	#VALUE!

* Average fuel economy values estimated by category based on FY 1999 New GSA Leased Vehicles for fleet and fleet fuel economy guide

STRATEGY

1. BIODIESEL USE

- Assume diesel use remains constant through FY2005
- Assume total conversion to B20 by FY2005

FY2005 Diesel (gal)	FY2005 B20 USE (gal)	EQUIV FY2005 FUEL DISPL (GGE)
31,266	31,876	6,477

2. AFV ACQUISITIONS - VIDS

- AFV Refueling access (< 15 miles) = CNG on-site; LPG (private)

- Location C is in MSA
- Non-AFV acquisition rates assumed same as FY2001; AFV acquisition at 75% EPACT

- LDV turnover assumed to be five years

- Mix of AFV (100% E85); fleet stated do not want to use on-site CNG station

- Avg annual LDV fuel use = 108989/(133-19) = 956 GGE

- FFVs assumed 75% E85 use

	2000 Total	AFV	2001 Total	AFV	2002 Total	AFV	2003 Total	AFV	2004 Total
LDV	24	24	26	20	26	20	26	20	26
MDV									
HDV									

Total AFVs in Service in FY2005		Total AF Fuel Use (GGE) in FY2005
E85 FFV	100	71700
Total	100	71700

3. Fuel Economy Increases

- Baseline FE is zero since did not buy any non-AFV LDVs in '1999'

	FY01	FY02	FY03	FY04	FY05
New LDV	6	6	6	6	6
gal/LDV	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
Total gal used	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
Total gal saved	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!

Total gal saved FY01 thru FY05 = 0 GGE

4. Fleet Efficiency Improvements

- Reduced vehicle trips
- Increased vehicle loads
- More use of higher FE
- Assume overall two percent reduction in LDV fleet GGE from baseline

Covered Baseline GGE	Assumed 2% Savings (GGE)
144,007	2,880

OVERALL PETROL FUEL REDUCTIONS FOR LOCATION C STRATEGY

STRATEGY OPTION	FUEL SAVED (GGE)
1	6,477
2	71700
3	0
4	2,880
TOTAL	81,057

LOCATION D

TOTAL FUEL USE

	1999 (GAL)	GGE	1999 NON-ROAD GAL	GGE	GAL	1999 EXEMPT GGE	TOTAL GGE	2005 GOAL GGE REDUCT
GASOL	397,889	397,889			39558	39558	358,331	
DIESEL	579,235	648,743					648,743	
TOTAL		1,046,632		-		39,558	1,007,074	201,415

FLEET DATA

	1999 INVENTORY	NEW TOTAL	NEW AFV	2000 INVENTORY	NEW TOTAL	NEW AFV	2001 INVENTORY	NEW TOTAL	NEW AFV
LDV	698	61	47	698	41	25	700	35	20
MDV	15			15			15		
HDV	249		1	249			249		
AFV	125								

	GASOL	DIESEL	EXEMPT
LDV	573	3	57
MDV		15	(assumed all diesel)
HDV		249	(assumed all diesel)

FLEET FUEL ECONOMY (NEW ACQUISITIONS)

Vehicle Type Make	Model	Cylinders	Drive	1999 Acquisitions	Fuel Economy Info City FE	Hwy FE	Combined FE		
Ford	MINICOMPACT				0			26	0
Ford	SUBCOMPACT			0			33	0	
	COMPACT				20.3	28.5	23	0	
	MIDSIZE				19.7	29	23	0	
	LARGE				18	25	21	0	
	TWO-SEATER						0	0	
	SMALL P/U				16.1	20.2	18	0	
	LARGE P/U			8	14.3	19.1	16	0.496173983	
	SMALL VAN			3	15.5	20.7	17	0.171669004	
	LARGE VAN			1	14.2	19.1	16	0.062292604	

Baseline Average FE	16.4
FY2002 FE Goal	17.4
FY2005 FE Goal	19.4

* Average fuel economy values estimated by category based on FY 1999 New GSA Leased Vehicles for fleet and fleet fuel economy guide

STRATEGY

1. BIODIESEL USE

- Assume diesel use remains constant through FY2005
- Assume total conversion to B20 by FY2005

FY2005 Diesel (Gal)	FY2005 B20 USE (gal)	EQUIV FY2005 FUEL DISPL (GGE)
579,235	590,532	119,991

2. AFV ACQUISITIONS - VIDS

- AFV Refueling access (< 15 miles) = CNG (govt, private), LPG, Electric
- Location D not in MSA

- Non-AFV acquisition rate assumed same as FY2001

AFV acquisition rate assumed 75%

- All acquisitions assumed to be LDV

- LDV turnover assumed to be five years

- Mix of AFVs based on 1999 purchased (90% Bi-Fuel CNG; 10% E85)
- Avg annual LDV fuel use = 397889/(698-125) = 694 GGE

- Bi-fuel assumed to use CNG 75% of time; FFVs assumed 75% E85 use

AFV		2000 Total	AFV	2001 Total	AFV	2002 Total	AFV	2003 Total	AFV	2004 Total
	LDV	41	25	35	26	35	26	35	26	35
26	MDV									
	HDV									

Total AFVs in Service in FY2005		Total AF Fuel Use (GGE) in FY2005
CNG bi-fuel	117	60899
E85 FFV	13	6767
Total	130	67665

3. Fuel Economy Increases

- Require gradually increasing FE consistent with FY02 and FY05 goals
  - FY01 = 0.5 mpg increase
  - FY02 = 1.0 mpg increase
  - FY03 = 2.0 mpg increase
  - FY04 =2.5 mpg increase
  - FY05 = 3.0 mpg increase
- Achieve increased FE through better selection of vehicle types, use of hybrids
- LDV turnover assumed to be five years
- Assume average new LDV in 1999 travels 11413 mi/yr based on 694 gal/yr and avg 16.4 mpg

	FY01	FY02	FY03	FY04	FY05
New LDV	9	9	9	9	9
gal/LDV	674	655	619	603	587
Total gal used	6065	5891	5572	5425	5285
Total gal saved	181	355	674	821	961

Total gal saved FY01 thru FY05 = 2992 GGE

4. Fleet Efficiency Improvements

- Reduced vehicle trips
- Increased vehicle loads
- More use of higher FE
- Assume overall two percent reduction in LDV fleet GGE from baseline

Covered Baseline GGE	Assumed 2% Savings (GGE)
1,007,074	20,141

OVERALL PETROL FUEL REDUCTIONS FOR LOCATION D STRATEGY

STRATEGY OPTION	FUEL SAVED (GGE)
1	119,991
2	67665
3	2992
4	20,141
TOTAL	210,789

LOCATION E

TOTAL FUEL USE

	1999		1999 NON-ROAD			1999 EXEMPT		2005 GOAL
	(GAL)	GGE	GAL	GGE	GAL	GGE	TOTAL GGE	GGE REDUCT
GASOL	68,393	68,393			1098	1098	67,295	
DIESEL	37,741	42,270					42,270	
TOTAL		110,663		-		1,098	109,565	21,913

FLEET DATA

	1999 INVENTORY	NEW TOTAL	NEW AFV	2000 INVENTORY	NEW TOTAL	NEW AFV	2001 INVENTORY	NEW TOTAL	NEW AFV
LDV	191	46	2	194	44	22	194	38	20
MDV	56	4	0	56	2	0	56	6	0
HDV	39	0	0	39	1	0	39	2	0
AFV	4								
	GASOL	DIESEL	EXEMPT						
LDV	187	0	3						
MDV	0	56							
HDV	0	39							

FLEET FUEL ECONOMY (NEW ACQUISITIONS) - GSA Leased Vehicle Data

Vehicle Type				1999	Fuel Economy Info			
Make	Model	Cylinders	Drive	Acquisitions	City FE	Hwy FE	Combined FE	
	Astro			1	16	18	17	0.059375
	Astro			3	16	19	17	0.174177632
	Breeze			26	20	28	23	1.132857143
	Cargo van			4	15	21	17	0.232380952
	Contour			2	22	31	25	0.079032258
	Ram 1500			1	16	21	18	0.055803571
	Windstar			1	15	23	18	0.056231884
					Baseline Average FE			21.23
					FY2002 FE Goal			22.23
					FY2005 FE Goal			24.23

* Fuel economy values from DOE fleet fuel economy guide

STRATEGY

1. BIODIESEL USE

- Assume diesel use remains constant through FY2005

- Assume total conversion to B20 by FY2005

FY 2005 Diesel (Gal)	FY2005 B20 USE (gal)	EQUIV FY2005 FUEL DISPL (GGE)
37,741	38,477	7,818

2. AFV ACQUISITIONS - VIDS

- AFV Refueling access (< 15 miles) = CNG (gov't), LPG (private, public)

- Location E in MSA

- Non-AFV acquisition rates assumed same as FY2001; AFV acquisition = 75% EPACT
  - All acquisitions assumed to be LDV

- LDV turnover assumed to be five years

- Mix of AFVs based on 1999 purchased (33% Bi-Fuel CNG; 33% E85; 33% EV)
  - Avg annual LDV fuel use = 68393/187 = 366 GGE

- Bi-fuel assumed to use CNG 75% of time; FFVs assumed 75% E85 use

	2000 Total	AFV	2001 Total	AFV	2002 Total	AFV	2003 Total	AFV	2004 Total
AFV									

LDV	44	22	38	29	38	29	38	29	38
29									
MDV									
HDV									

Total AFVs in Service in FY2005		Total AF Fuel Use (GGE) in FY2005
CNG bi-fuel	48	13135
E85 FFV	48	13135
EV	48	17513
Total	96	43783

3. Fuel Economy Increases

- Require gradually increasing FE consistent with FY02 and FY05 goals
  - FY01 = 0.5 mpg increase
  - FY02 = 1.0 mpg increase
  - FY03 = 2.0 mpg increase
  - FY04 =2.5 mpg increase
  - FY05 = 3.0 mpg increase
- Achieve increased FE through better selection of vehicle types, use of hybrids
- LDV turnover assumed to be five years
- Assume average new LDV in 1999 travels 7765 mi/yr based on 366 gal/yr and avg 21.2 mpg

	FY01	FY02	FY03	FY04	FY05
New LDV	9	9	9	9	9
gal/LDV	357	349	334	327	320
Total gal used	3216	3144	3008	2945	2884
Total gal saved	78	150	286	349	410

Total gal saved FY01 thru FY05 = 1273 GGE

4. Fleet Efficiency Improvements

- Reduced vehicle trips
- Increased vehicle loads
- More use of higher FE
- Assume overall two percent reduction in LDV fleet GGE from baseline

Covered Baseline GGE	Assumed 2% Savings (GGE)
109,565	2,191

OVERALL PETROL FUEL REDUCTIONS FOR LOCATION E STRATEGY

STRATEGY OPTION	FUEL SAVED (GGE)
1	7,818
2	43783
3	1273
4	2,191
TOTAL	55,065

LOCATION F

TOTAL FUEL USE

	1999 (GAL)	GGE	1999 NON-ROAD GAL	GGE	GAL	1999 EXEMPT GGE	TOTAL GGE	2005 GOAL GGE REDUCT
GASOL	415,253	415,253			17300	17300	397,953	
DIESEL	53,529	59,952					59,952	
TOTAL		475,205		-		17,300	457,905	91,581

FLEET DATA

	1999 INVENTORY	NEW TOTAL	NEW AFV	2000 INVENTORY	NEW TOTAL	NEW AFV	2001 INVENTORY	NEW TOTAL	NEW AFV
LDV	592	98	83	592	118	96	592	110	48
MDV	342	7		342			342		
HDV	42			42			42		
AFV	112								

	GASOL	DIESEL	EXEMPT
LDV	480	0	20
MDV		342	(assume all diesel)
HDV		42	(assume all diesel)

FLEET FUEL ECONOMY (NEW ACQUISITIONS) - GSA Leased Vehicle Data

Vehicle Type Make	Model	Cylinders	Drive	1999 Acquisitions	Fuel Economy Info City FE	Hwy FE	Combined FE	
Ford	astro			4	16	19	17	0.232236842
	breeze			6	20	28	23	0.261428571
	crown vic			2	18	25	21	0.097111111
	D1500			1	17	22	19	0.052807487
	Durango			2	15	20	17	0.118333333
	F250			9	13	18	15	0.605769231
	Lumina			2	20	30	24	0.085
	Ram 1500			1	16	21	18	0.055803571
	Ranger			1	18	23	20	0.050120773
	Tahoe			4	15	19	17	0.241403509
	Taurus			1	19	27	22	0.045614035
					Baseline Average FE			17.9
					FY2002 FE Goal			18.9
					FY2005 FE Goal			20.9

* Fuel economy values from DOE fleet fuel economy guide

STRATEGY

1. BIODIESEL USE

- Assume diesel use remains constant through FY2005
- Assume total conversion to B20 by FY2005

FY2005 Diesel (gal)	FY2005 B20 USE (gal)	EQUIV FY2005 FUEL DISPL (GGE)
53,529	54,573	11,089

2. AFV ACQUISITIONS

- AFV Refueling access (< 15 miles) = CNG (gov't), LPG (private, public)

- Location F in MSA

- Non-AFV acquisition rates assumed same as FY2001; AFV acquisition = 75% EPACT

- All acquisitions assumed to be LDV

- LDV turnover assumed to be five years

- Mix of AFVs based on 1999 purchased (90% Bi-Fuel CNG; 10% E85)
  - Avg annual LDV fuel use = 415253/(592-106) = 865 GGE

- Bi-fuel assumed to use CNG 75% of time; FFVs assumed 75% E85 use

	2000 Total	AFV	2001 Total	AFV	2002 Total	AFV	2003 Total	AFV	2004 Total AFV
LDV	118	96	110	83	110	83	110	83	110 83
MDV									
HDV									

Total AFVs in Service in FY2005		Total AF Fuel Use (GGE) in FY2005
CNG bi-fuel	374	242308
E85 FFV	42	26923
Total	415	269231

3. Fuel Economy Increases

- Require gradually increasing FE consistent with FY02 and FY05 goals
  - FY01 = 0.5 mpg increase
  - FY02 = 1.0 mpg increase
  - FY03 = 2.0 mpg increase
  - FY04 =2.5 mpg increase
  - FY05 = 3.0 mpg increase
- Achieve increased FE through better selection of vehicle types, use of hybrids
- LDV turnover assumed to be five years
- Assume average new LDV in 1999 travels 15,468 mi/yr based on 865 gal/yr and avg 17.9 mpg

	FY01	FY02	FY03	FY04	FY05
New LDV	27	27	27	27	27
gal/LDV	842	819	778	759	741
Total gal used	22722	22120	21008	20492	20002
Total gal saved	633	1235	2347	2863	3353

Total gal saved FY01 thru FY05 = 10431 GGE

4. Fleet Efficiency Improvements

- Reduced vehicle trips

- Increased vehicle loads
- More use of higher FE
- Assume overall two percent reduction in LDV fleet GGE from baseline

Covered Baseline GGE	Assumed 2% Savings (GGE)
457,905	9,158

OVERALL PETROL FUEL REDUCTIONS FOR LOCATION F STRATEGY

STRATEGY OPTION	FUEL SAVED (GGE)
1	11,089
2	269231
3	10431
4	9,158
TOTAL	299,909

LOCATION G

TOTAL FUEL USE

	1999 (GAL)	GGE	1999 NON-ROAD GAL	GGE	GAL	1999 EXEMPT GGE	TOTAL GGE	2005 GOAL GGE REDUCT
GASOL	337,395	337,395			29880	29880	307,515	
DIESEL	151,250	169,400					169,400	
TOTAL		506,795		-		29,880	476,915	95,383

FLEET DATA

	1999 INVENTORY	NEW TOTAL	NEW AFV	2000 INVENTORY	NEW TOTAL	NEW AFV	2001 INVENTORY	NEW TOTAL	NEW AFV
LDV	813	122	83	833	75	62	833	75	62
MDV	510	47	0	530	60	0	530	60	0
HDV	115	2	0	115	5	0	115	5	0
AFV	83								

	GASOL	DIESEL	EXEMPT
LDV			72
MDV			
HDV			

FLEET FUEL ECONOMY (NEW ACQUISITIONS) - GSA Leased Vehicle Data

Vehicle Type Make	Model	Cylinders	Drive	1999 Acquisitions	Fuel Economy Info City FE	Hwy FE	Combined FE	
	1500 Cargo			1	13	18	15	0.067307692
	astro			3	16	19	17	0.174177632
	breeze			3	20	28	23	0.130714286
	cherokee			14	16	20	18	0.79625
	D150			1	14	19	16	0.062969925
	Dakota			3	15	20	17	0.1775
	Durango			45	15	20	17	2.6625
	Expedition			11	11	20	14	0.7975
	F250			7	13	18	15	0.471153846
	S10			3	17	21	19	0.161344538
	Tahoe			13	15	19	17	0.784561404
					Baseline Average FE			16.5
					FY2002 FE Goal			17.5
					FY2005 FE Goal			19.5

* Fuel economy values from DOE fleet fuel economy guide

STRATEGY

1. BIODIESEL USE

- Assume diesel use remains constant through FY2005
- Assume total conversion to B20 by FY2005

Fy2005 Diesel (gal)	FY2005 B20 USE (gal)	EQUIV FY2005 FUEL DISPL (GGE)
151,250	154,200	31,332

2. AFV ACQUISITIONS

- AFV Refueling access (< 15 miles) = CNG (on-site, govt), LPG (private, utility), E85 (private)

- Location G in MSA

- Non-AFV acquisition rates assumed same as FY2001; AFV acquisition = 75% EPACT

- All acquisitions assumed to be LDV

- LDV turnover assumed to be five years

- Mix of AFVs based on 1999 purchased (100% E85)

- Avg annual LDV fuel use = 415 GGE based on SF-82 data

- FFVs assumed 75% E85 use

	2000 Total	AFV	2001 Total	AFV	2002 Total	AFV	2003 Total	AFV	2004 Total
AFV									
LDV	75	62	75	62	75	62	75	62	75
62									
MDV									
HDV									

Total AFVs in Service in FY2005		Total AF Fuel Use (GGE) in FY2005
E85 FFV	310	96488
Total	310	96488

3. Fuel Economy Increases

- Require gradually increasing FE consistent with FY02 and FY05 goals
  - FY01 = 0.5 mpg increase
  - FY02 = 1.0 mpg increase
  - FY03 = 2.0 mpg increase
  - FY04 =2.5 mpg increase
  - FY05 = 3.0 mpg increase
- Achieve increased FE through better selection of vehicle types, use of hybrids
- LDV turnover assumed to be five years
- Assume average new LDV in 1999 travels 6848 mi/yr based on 415 gal/yr and avg 16.5 mpg

	FY01	FY02	FY03	FY04	FY05
New LDV	13	13	13	13	13
gal/LDV	402	390	369	360	350
Total gal used	5223	5074	4800	4674	4555
Total gal saved	172	321	595	721	840

Total gal saved FY01 thru FY05 = 2648 GGE

4. Fleet Efficiency Improvements

- Reduced vehicle trips
- Increased vehicle loads
- More use of higher FE
- Assume overall two percent reduction in LDV fleet GGE from baseline

Covered Baseline GGE	Assumed 2% Savings (GGE)
476,915	9,538

OVERALL PETROL FUEL REDUCTIONS FOR LOCATION G STRATEGY

STRATEGY OPTION	FUEL SAVED (GGE)
1	31,332
2	96488
3	2648
4	9,538
TOTAL	140,006

LOCATION H

TOTAL FUEL USE

	1999 (GAL)	GGE	1999 NON-ROAD GAL	GGE	GAL	1999 EXEMPT GGE	TOTAL GGE	2005 GOAL GGE REDUCT
GASOL	16,100	16,100			1464	1464	14,636	
DIESEL	720	806					806	
TOTAL		16,906		-		1,464	15,442	3,088

FLEET DATA

	1999 INVENTORY	NEW TOTAL	NEW AFV	2000 INVENTORY	NEW TOTAL	NEW AFV	2001 INVENTORY	NEW TOTAL	NEW AFV
LDV	36	9	8	36	6	5	37	9	9
MDV	12	1							
HDV									
Afv	14								

	GASOL	DIESEL	EXEMPT
LDV	22		2
MDV	0	12	(assume all diesel)
HDV	0	0	

FLEET FUEL ECONOMY (NEW ACQUISITIONS)

Vehicle Type Make	Model	Cylinders	Drive	1999 Acquisitions	Fuel Economy Info City FE	Hwy FE	Combined FE	
Ford	MINICOMPACT				0		26	0
Ford	SUBCOMPACT			0			33	0
	COMPACT			0	20.3	28.5	23	0
	MIDSIZE			0	19.7	29	23	0
	LARGE			0	18	25	21	0
	TWO-SEATER			0			0	0
	SMALL P/U			0	16.1	20.2	18	0
	LARGE P/U			0	14.3	19.1	16	0
	SMALL VAN			0	15.5	20.7	17	0
	LARGE VAN			0	14.2	19.1	16	0

Baseline Average FE	-
FY2002 FE Goal	#VALUE!
FY2005 FE Goal	#VALUE!

* Average fuel economy values estimated by category based on FY 1999 New GSA Leased Vehicles for fleet and fleet fuel economy guide

STRATEGY

1. BIODIESEL USE

- Assume diesel use remains constant through FY2005
- Assume total conversion to B20 by FY2005

FY2005 Diesel (gal)	FY2005 B20 USE (gal)	EQUIV FY2005 FUEL DISPL (GGE)
720	734	149

2. AFV ACQUISITIONS

- AFV Refueling access (< 15 miles) = CNG (public); LPG (public); E85 (public)
  - Location H is in MSA
- Non-AFV acquisition rates assumed same as FY2001; AFV acquisition at 75% EPACT
  - LDV turnover assumed to be five years
- Mix of AFVs (50% CNG; 30% Electric; 20% E85) based on Fy 1999 purchased
  - Avg annual LDV fuel use = 16100/22 = 732 GGE

- CNG Bi-Fuel and FFVs assumed 75% E85 use

	2000 Total	AFV	2001 Total	AFV	2002 Total	AFV	2003 Total	AFV	2004 Total	AFV
LDV	6	5	9	7	9	7	9	7	9	7
MDV										
HDV										

Total AFVs in Service in FY2005		Total AF Fuel Use (GGE) in FY2005
CNG Bi-Fuel	18	9608
Electric	11	7686
E85 FFV	7	3843
Total	25	13451

3. Fuel Economy Increases

- Require gradually increasing FE consistent with FY02 and FY05 goals
  - FY01 = 0.5 mpg increase
  - FY02 = 1.0 mpg increase
  - FY03 = 2.0 mpg increase
  - FY04 =2.5 mpg increase
  - FY05 = 3.0 mpg increase
- Achieve increased FE through better selection of vehicle types, use of hybrids
- LDV turnover assumed to be five years
- Assume average new LDV in 1999 travels 6751 mi/yr based on 348 gal/yr and avg 19.4 mpg

	FY01	FY02	FY03	FY04	FY05
New LDV	2	2	2	2	2
gal/LDV	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
Total gal used	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
Total gal saved	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!

Total gal saved FY01 thru FY05 = 0 GGE

5. Fleet Efficiency Improvements
- Reduced vehicle trips
- Increased vehicle loads
- More use of higher FE
- Assume overall two percent reduction in LDV fleet GGE from baseline

Covered Baseline GGE	Assumed 2% Savings (GGE)
15,442	309

OVERALL PETROL FUEL REDUCTIONS FOR LOCATION H STRATEGY

STRATEGY OPTION	FUEL SAVED (GGE)
1	149
2	13451
3	0
4	309
TOTAL	13,908

LOCATION I

TOTAL FUEL USE - Fleet Sources

	1999 (GAL)	GGE	1999 NON-ROAD GAL	GGE	1999 EXEMPT GAL	GGE	TOTAL GGE	2005 GOAL GGE REDUCT
GASOL	1,127,100	1,127,100			12348	12348	1,114,752	
DIESEL	507,280	568,154	355,096	397,708		-	170,446	
TOTAL		1,695,254		397,708		12,348	1,285,198	257,040

FLEET DATA

	1999 INVENTORY	NEW TOTAL	NEW AFV	2000 INVENTORY	NEW TOTAL	NEW AFV	2001 INVENTORY	NEW TOTAL	NEW AFV
LDV	1040	100	20	981	232	91	880	100	20
MDV	170	0	0	169	0	0	0	0	0
HDV	257	0	0	256	1	0	200	0	0
AFV	111								

	GASOL	DIESEL	EXEMPT
LDV	657	0	9
MDV	105	2	
HDV	48	210	

FLEET FUEL ECONOMY (NEW ACQUISITIONS) - GSA Leased Vehicle Data

Vehicle Type Make	Model	Cylinders	Drive	1999 Acquisitions	Fuel Economy Info City FE	Hwy FE	Combined FE	
Plymouth	Breeze			5	20	28	23	0.217857143
Dodge	Caravan			1	16	20	18	0.056875
Jeep	Cherokee			26	16	20	18	1.47875
Ford	Contour			1	22	31	25	0.039516129
Dodge	Dakota			3	16	21	18	0.167410714
Dodge	Dakota			8	14	18	16	0.514285714
Ford	E150			2	14	17	15	0.131512605
Ford	Expedition			10	11	20	14	0.725
Ford	F250			4	13	18	15	0.269230769
Dodge	Ram 1500			5	16	21	18	0.279017857
Ford	Ranger			1	18	23	20	0.050120773
Chevy	Tahoe			4	15	19	17	0.241403509
Ford	Windstar			3	15	23	18	0.168695652

Baseline Average FE	16.82
FY2002 FE Goal	17.82
FY2005 FE Goal	19.82

* Fuel economy values from DOE fleet fuel economy guide

STRATEGY

1. BIODIESEL USE

- Assume diesel use remains constant through FY2005
- Assume total conversion to B20 by FY2005

FY2005 Diesel (gal)	FY2005 B20 USE (gal)	EQUIV FY2005 FUEL DISPL (GGE)
507,280	517,173	105,085

2. AFV ACQUISITIONS

- AFV Refueling access (< 15 miles) = CNG (onsite)

- Location I is not in MSA

- Non-AFV acquisition rates assumed same as FY2001

- AFV acquisition rates assumed to be 75% for FY 2001 thru Fy 2005
  - LDV turnover assumed to be five years

- Mix of AFVs (80% CNG; 20% E85)

- According to fleet sources, 80% of gasoline is consumed by LDV
  - Avg annual LDV fuel use = (1,127,100*0.8)/657 = 1372 GGE

- Bi-fuel assumed to use CNG 75% of time; FFVs assumed 75% E85 use

	2000 Total	AFV	2001 Total	AFV	2002 Total	AFV	2003 Total	AFV	2004 Total	AFV
LDV	232	91	100	75	100	75	100	75	100	75
MDV										
HDV										

Total AFVs in Service in FY2005		Total AF Use in FY 2005 (GGE)	AFV Refueling Infra
CNG bi-fuel	300	308700	
E85 FFV	75	77175	
Total	375	385875	

3. Fuel Economy Increases
- Require gradually increasing FE consistent with FY02 and FY05 goals
  - FY01 = 0.5 mpg increase
  - FY02 = 1.0 mpg increase
  - FY03 = 2.0 mpg increase
  - FY04 =2.5 mpg increase
  - FY05 = 3.0 mpg increase
- Achieve increased FE through better selection of vehicle types, use of hybrids
- LDV turnover assumed to be five years
- Assume average new LDV in 1999 travels 23086 mi/yr based on 1372 gal/yr and avg 16.82 mpg

	FY01	FY02	FY03	FY04	FY05
New LDV	25	25	25	25	25
gal/LDV	1333	1295	1227	1195	1165
Total gal used	33320	32385	30664	29871	29117
Total gal saved	980	1915	3636	4429	5183

Total gal saved FY01 thru FY05 = 16143 GGE

4. Fleet Efficiency Improvements
- Reduced vehicle trips
- Increased vehicle loads
- More use of higher FE
- Assume overall two percent reduction in LDV fleet GGE from baseline

Covered Baseline GGE	Assumed 2% Savings (GGE)
1,285,198	25,704

OVERALL PETROL FUEL REDUCTIONS FOR LOCATION I STRATEGY

STRATEGY OPTION	FUEL SAVED (GGE)
1	105,085
2	385875
3	16143
4	25,704
TOTAL	532807

LOCATION J

TOTAL FUEL USE

	1999 (GAL)	GGE	1999 NON-ROAD GAL	GGE	1999 EXEMPT GAL	GGE	TOTAL GGE	2005 GOAL GGE REDUCT
GASOL	802,458	802,458			11452	11452	791,006	
DIESEL	65,450	73,304					73,304	
TOTAL		875,762		-		11,452	864,310	172,862

FLEET DATA

	1999 INVENTORY	NEW TOTAL	NEW AFV	2000 INVENTORY	NEW TOTAL	NEW AFV	2001 INVENTORY	NEW TOTAL	NEW AFV
LDV	2010	39	17	1569	19	13	1514	30	12
MDV	233								
HDV	117								
AFV	66								

	GASOL	DIESEL	EXEMPT
LDV	1944	18	28
MDV		233	(assume all diesel)
HDV		117	(assume all diesel)

FLEET FUEL ECONOMY (NEW ACQUISITIONS)

Vehicle Type Make	Model	Cylinders	Drive	1999 Acquisitions	Fuel Economy Info City FE	Hwy FE	Combined FE

Ford	MINICOMPACT		0			26	0
Ford	SUBCOMPACT	0			33	0	
	COMPACT	3	20.3	28.5	23	0.128649209	
	MIDSIZE		19.7	29	23	0	
	LARGE		18	25	21	0	
	TWO-SEATER				0	0	
	SMALL P/U	6	16.1	20.2	18	0.33863231	
	LARGE P/U	13	14.3	19.1	16	0.806282723	
	SMALL VAN		15.5	20.7	17	0	
	LARGE VAN		14.2	19.1	16	0	
			Baseline Average FE			17.3	
			FY2002 FE Goal			18.3	
			FY2005 FE Goal			20.3	

* Average fuel economy values estimated by category based on FY 1999 New GSA Leased Vehicles for fleet

and fleet fuel economy guide

STRATEGY

1. BIODIESEL USE

- Assume diesel use remains constant through FY2005
- Assume total conversion to B20 by FY2005

FY2005 Diesel (gal)	FY2005 B20 USE (gal)	EQUIV FY2005 FUEL DISPL (GGE)
65,450	66,726	13,558

2. AFV ACQUISITIONS - VIDS

- AFV Refueling access (< 20 miles) = CNG (govt), LPG (private)

- Location J in MSA

- Non-AFV acquisition rates assumed same as FY2001; AFV acquisition = 75% EPACT

- All acquisitions assumed to be LDV

- LDV turnover assumed to be five years

- Mix of AFVs based on 1999 purchased (100% E85)

- Avg annual LDV fuel use = 409 GGE based on SF-82 data

- FFVs assumed 75% E85 use

	2000		2001		2002		2003		2004
	Total	AFV	Total	AFV	Total	AFV	Total	AFV	Total AFV
LDV	19	13	30	23	30	23	30	23	30 23
MDV									
HDV									

Total AFVs in Service in FY2005		Total AF Fuel Use (GGE) in FY2005
E85 FFV	115	35276
Total	115	35276

3. Fuel Economy Increases

- Require gradually increasing FE consistent with FY02 and FY05 goals
  - FY01 = 0.5 mpg increase
  - FY02 = 1.0 mpg increase
  - FY03 = 2.0 mpg increase
  - FY04 =2.5 mpg increase
  - FY05 = 3.0 mpg increase
- Achieve increased FE through better selection of vehicle types, use of hybrids
- LDV turnover assumed to be five years
- Assume average new LDV in 1999 travels 7076 mi/yr based on 409 gal/yr and avg 17.3 mpg

	FY01	FY02	FY03	FY04	FY05
New LDV	7	7	7	7	7
gal/LDV	398	387	367	358	349
Total gal used	2787	2710	2570	2505	2443
Total gal saved	76	153	293	358	420

Total gal saved FY01 thru FY05 = 1300 GGE

4. Fleet Efficiency Improvements

- Reduced vehicle trips
- Increased vehicle loads
- More use of higher FE
- Assume overall two percent reduction in LDV fleet GGE from baseline

Covered Baseline GGE	Assumed 10% Savings (GGE)
864,310	86,431

OVERALL PETROL FUEL REDUCTIONS FOR LOCATION J STRATEGY

STRATEGY OPTION	FUEL SAVED (GGE)
1	13,558
2	35276
3	1300
4	86,431
TOTAL	136,566

LOCATION K

TOTAL FUEL USE

1999		1999 NON-ROAD			1999 EXEMPT		2005 GOAL
(GAL)	GGE	GAL	GGE	GAL	GGE	TOTAL GGE	GGE REDUCT

GASOL	221,748	221,748		0	0		221,748	
DIESEL	102,929	115,280					115,280	
TOTAL		337,028	-		-		337,028	67,406

FLEET DATA

	1999 INVENTORY	NEW TOTAL	NEW AFV	2000 INVENTORY	NEW TOTAL	NEW AFV	2001 INVENTORY	NEW TOTAL	NEW AFV
LDV	271	50	50	287	38	12	294	35	35
MDV	7	0	0	7	0	0	7	0	0
HDV	16	5	0	16	0	0	16	0	0
AFV	63								
	GASOL	DIESEL	EXEMPT						
LDV	208	3	0						
MDV	0	7							
HDV	0	16							

FLEET FUEL ECONOMY (NEW ACQUISITIONS) - GSA Leased Vehicle Data

Vehicle Type Make	Model	Cylinders	Drive	1999 Acquisitions	Fuel Economy Info City FE	Hwy FE	Combined FE	
	1500	1		5	13	18	15	0.336538462
	1500	1			14	18	16	0
	Countour	5		1	22	31	25	0.039516129
	Crown Vic	1			18	25	21	0
	Ram 1500	3		11	16	21	18	0.613839286
	Tahoe	29		19	15	19	17	1.146666667
					Baseline Average FE			16.8
					FY2002 FE Goal			17.8
					FY2005 FE Goal			19.8

* Fuel economy values from DOE fleet fuel economy guide

STRATEGY

1. BIODIESEL USE

- Assume diesel use remains constant through FY2005
- Assume total conversion to B20 by FY2005

Fy2005 Diesel (gal)	FY2005 B20 USE (gal)	EQUIV FY2005 FUEL DISPL (GGE)
102,929	104,936	21,322

2. AFV ACQUISITIONS

- AFV Refueling access (< 15 miles) = CNG (onsite); biodiesel (onsite)
- Location K not in MSA
- Non-AFV acquisition rates assumed same as FY2001
- Afv acquisition rate assumed 75%
- All acquisitions assumed to be LDV
- LDV turnover assumed to be five years
- Problems with onsite CNG station; want to phase it out
- Mix of AFVs based on 1999 purchased (100% E85)
- Avg annual LDV fuel use = 221748/208 = 1066 GGE
- FFVs assumed 75% E85 use

	2000 Total	AFV	2001 Total	AFV	2002 Total	AFV	2003 Total	AFV	2004 Total
AFV									
LDV	38	12	35	26	35	26	35	26	35
26									
MDV									
HDV									

Total AFVs in Service in FY2005		Total AF Fuel Use (GGE) in FY2005	
E85 FFV	130	103935	
Total	130	103935	

3. Fuel Economy Increases

- Require gradually increasing FE consistent with FY02 and FY05 goals
  - FY01 = 0.5 mpg increase
  - FY02 = 1.0 mpg increase
  - FY03 = 2.0 mpg increase
  - FY04 =2.5 mpg increase
  - FY05 = 3.0 mpg increase
- Achieve increased FE through better selection of vehicle types, use of hybrids
- LDV turnover assumed to be five years
- Assume average new LDV in 1999 travels 17909 mi/yr based on 1066 gal/yr and avg 16.8 mpg

	FY01	FY02	FY03	FY04	FY05
New LDV	9	9	9	9	9
gal/LDV	1032	1003	950	926	902
Total gal used	9290	9030	8551	8330	8120
Total gal saved	304	564	1043	1264	1474

Total gal saved FY01 thru FY05 = 4649 GGE

4. Fleet Efficiency Improvements

- Reduced vehicle trips
- Increased vehicle loads
- More use of higher FE
- Assume overall two percent reduction in LDV fleet GGE from baseline

Covered Baseline GGE	Assumed 2% Savings (GGE)
337,028	6,741

OVERALL PETROL FUEL REDUCTIONS FOR LOCATION K STRATEGY

STRATEGY OPTION	FUEL SAVED (GGE)
1	21,322
2	103935
3	4649
4	6,741
TOTAL	136,646

LOCATION L

TOTAL FUEL USE

	1999 (GAL)	GGE	1999 NON-ROAD GAL	GGE	GAL	1999 EXEMPT GGE	TOTAL GGE	2005 GOAL GGE REDUCT
GASOL	373,380	373,380			0	0	373,380	
DIESEL	160,024	179,227					179,227	
TOTAL		552,607		-		-	552,607	110,521

FLEET DATA

	1999 INVENTORY	NEW TOTAL	NEW AFV	2000 INVENTORY	NEW TOTAL	NEW AFV	2001 INVENTORY	NEW TOTAL	NEW AFV
LDV	820	7	7	820	10	10	820	7	7
MDV	142								
HDV	24								
AFV	85								

	GASOL	DIESEL	EXEMPT
LDV	735	0	0
MDV	0	142	
HDV	0	24	

FLEET FUEL ECONOMY (NEW ACQUISITIONS) - GSA Leased Vehicle Data

Vehicle Type Make	Model	Cylinders	Drive	1999 Acquisitions	Fuel Economy Info City FE	Hwy FE	Combined FE	
	astro			1	15	19	17	0.060350877
	cherokee			7	16	20	18	0.398125
	durango			2	15	20	17	0.118333333
	F250			8	13	18	15	0.538461538
	S10			1	17	21	19	0.053781513
	Tahoe			12	15	19	17	0.724210526
	Windstar			1	15	23	18	0.056231884
					Baseline Average FE			16.4
					FY2002 FE Goal			17.4
					FY2005 FE Goal			19.4

* Fuel economy values from DOE fleet fuel economy guide

STRATEGY

1. BIODIESEL USE

- Assume diesel use remains constant through FY2005
- Assume total conversion to B20 by FY2005

Fy2005 Diesel (gal)	FY2005 B20 USE (gal)	EQUIV FY2005 FUEL DISPL (GGE)
160,024	163,145	33,150

2. AFV ACQUISITIONS

- AFV Refueling access (< 15 miles) = LPG (private)
- Location L not in MSA
- Non-AFV acquisition assumed same as FY2001
- Afv acquisition assumed 75%
- All acquisitions assumed to be LDV
- LDV turnover assumed to be five years
- Mix of AFVs based on 1999 purchased (100% E85)
- Avg annual LDV fuel use = 508 GGE based on SF-82 data
- FFVs assumed 75% E85 use

	2000 Total	AFV	2001 Total	AFV	2002 Total	AFV	2003 Total	AFV	2004 Total
LDV	7	7	10	8	10	8	10	8	10
MDV									
HDV									

Total AFVs in Service in FY2005		Total AF Fuel Use (GGE) in FY2005
E85 FFV	40	15240
Total	40	15240

3. Fuel Economy Increases

- Require gradually increasing FE consistent with FY02 and FY05 goals
  - FY01 = 0.5 mpg increase
  - FY02 = 1.0 mpg increase
  - FY03 = 2.0 mpg increase
  - FY04 =2.5 mpg increase
  - FY05 = 3.0 mpg increase
- Achieve increased FE through better selection of vehicle types, use of hybrids
- LDV turnover assumed to be five years
- Assume average new LDV in 1999 travels 8331 mi/yr based on 508 gal/yr and avg 16.4 mpg

	FY01	FY02	FY03	FY04	FY05
New LDV	2	2	2	2	2
gal/LDV	493	478	452	440	429
Total gal used	985	957	905	881	858
Total gal saved	31	59	111	135	158

Total gal saved FY01 thru FY05 = 494 GGE

4. Fleet Efficiency Improvements
- Reduced vehicle trips
- Increased vehicle loads
- More use of higher FE
- Assume overall ten percent reduction in LDV fleet GGE from baseline

Covered Baseline GGE	Assumed 10% Savings (GGE)
552,607	55,261

OVERALL PETROL FUEL REDUCTIONS FOR LOCATION L STRATEGY

STRATEGY OPTION	FUEL SAVED (GGE)
1	33,150
2	15240
3	494
4	55,261
TOTAL	104,145

LOCATION M

TOTAL FUEL USE

	1999 (GAL)	GGE	1999 NON-ROAD GAL	GGE	GAL	1999 EXEMPT GGE	TOTAL GGE	2005 GOAL GGE REDUCT
GASOL	228,753	228,753			14232	14232	214,521	
DIESEL	50,548	56,614					56,614	
TOTAL		285,367		-		14,232	271,135	54,227

FLEET DATA

	1999 INVENTORY	NEW TOTAL	NEW AFV	2000 INVENTORY	NEW TOTAL	NEW AFV	2001 INVENTORY	NEW TOTAL	NEW AFV
LDV	413	52	11	414	124	68	414	43	7
MDV	320	31		320	26		320		
HDV	30	14		30	4		30		
AFV	84								
	GASOL	DIESEL	EXEMPT			VIDS-Gasol			
LDV	386	27	24			0.935368043			
MDV		320	(assume all diesel)						
HDV	0	30							

FLEET FUEL ECONOMY (NEW ACQUISITIONS) - GSA Leased Vehicle Data

Vehicle Type Make	Model	Cylinders	Drive	1999 Acquisitions	Fuel Economy Info City FE	Hwy FE	Combined FE	
	1500			1	13	18	15	0.067307692
	1500			2	14	18	16	0.128571429
	cherokee			2	16	20	18	0.11375
	Contour			2	20	28	23	0.087142857
	durango			2	15	20	17	0.118333333
	F250			5	13	18	15	0.336538462
	Ram 1500			2	16	21	18	0.111607143
	suburban			2	14	16	15	0.134821429
	tahoe			12	15	19	17	0.724210526
	Windstar			1	15	23	18	0.056231884
					Baseline Average FE			16.5
					FY2002 FE Goal			17.5
					FY2005 FE Goal			19.5

* Fuel economy values from DOE fleet fuel economy guide

STRATEGY

1. BIODIESEL USE
- Assume diesel use remains constant through FY2005
- Assume total conversion to B20 by FY2005

Fy2005 Diesel (gal)	FY2005 B20 USE (gal)	EQUIV FY2005 FUEL DISPL (GGE)
50,548	51,534	10,471

2. AFV ACQUISITIONS
- AFV Refueling access (< 15 miles) = CNG (govt), LPG (private, utility), E85 (private)
- Location M in MSA
- Non-AFV acquisition rates assumed same as FY2001
- AFV acquisition rates assumed 75% EPACT
- All acquisitions assumed to be LDV
- LDV turnover assumed to be five years
- Mix of AFVs (50% CNG; 50% E85)
- Avg annual LDV fuel use = 588699/386 = 593 GGE
- Bi-fuel assumed to use CNG 75% of time; FFVs assumed 75% E85 use

	2000 Total	AFV	2001 Total	AFV	2002 Total	AFV	2003 Total	AFV	2004 Total	AFV
LDV	124	68	43	32	43	32	43	32	43	32
MDV										
HDV										

Total AFVs in Service in FY2005		Total AF Fuel Use (GGE) in FY2005
CNG bi-fuel	80	35580
E85 FFV	80	35580

Total	160	71160

3. Fuel Economy Increases
- Require gradually increasing FE consistent with FY02 and FY05 goals
  - FY01 = 0.5 mpg increase
  - FY02 = 1.0 mpg increase
  - FY03 = 2.0 mpg increase
  - FY04 =2.5 mpg increase
  - FY05 = 3.0 mpg increase
- Achieve increased FE through better selection of vehicle types, use of hybrids
- LDV turnover assumed to be five years
- Assume average new LDV in 1999 travels 9780 mi/yr based on 593 gal/yr and avg 16.5 mpg

	FY01	FY02	FY03	FY04	FY05
New LDV	11	11	11	11	11
gal/LDV	575	559	529	515	501
Total gal used	6327	6147	5814	5661	5516
Total gal saved	196	376	709	862	1007

Total gal saved FY01 thru FY05 = 3149 GGE

4. Fleet Efficiency Improvements
- Reduced vehicle trips
- Increased vehicle loads
- More use of higher FE
- Assume overall two percent reduction in LDV fleet GGE from baseline

Covered Baseline GGE	Assumed 2% Savings (GGE)
271,135	5,423

OVERALL PETROL FUEL REDUCTIONS FOR LOCATION M STRATEGY

STRATEGY OPTION	FUEL SAVED (GGE)
1	10,471
2	71160
3	3149
4	5,423
TOTAL	90,203

LOCATION N

TOTAL FUEL USE

	1999 (GAL)	GGE	1999 NON-ROAD GAL	GGE	GAL	1999 EXEMPT GGE	Covered GGE	2005 GOAL GGE REDUCT
GASOL	330,000	330,000			9174	9174	320,826	
DIESEL	333,000	372,960	293,000	328,160		-	44,800	
TOTAL		702,960		328,160		9,174	365,626	73,125

FLEET DATA -Fleet data

	1999 INVENTORY	NEW TOTAL	NEW AFV	2000 INVENTORY	NEW TOTAL	NEW AFV	2001 INVENTORY	NEW TOTAL	NEW AFV
LDV	1472	210	169	1472	151	114	1472	206	101
MDV		48	0		96	0		93	0
HDV	87	2	0	87	3	0	87	3	0
AFV	284								
	GASOL	DIESEL	EXEMPT						
LDV	1188	0	33						
MDV									
HDV		87							

FLEET FUEL ECONOMY (NEW ACQUISITIONS) - GSA Leased Vehicle Data

Vehicle Type Make	Model	Cylinders	Drive	1999 Acquisitions	Fuel Economy Info City FE	Hwy FE	Combined FE	
				0	0	0	0	0
				0			0	0
				0			0	0
				0			0	0
Ford	Windstar			4	15	23	18	0.224927536
Jeep	Cherokee			4	16	20	18	0.2275
Ford	F-250			9	13	18	15	0.605769231
Dodge	Dakota			4	16	21	18	0.223214286
Dodge	Ram 1500			8	16	21	18	0.446428571
Chevy	Suburban			16	14	16	15	1.078571429

Baseline Average FE	16.03
FY2002 FE Goal	17.03
FY2005 FE Goal	19.03

* Fuel economy values from DOE fleet fuel economy guide

STRATEGY

1. BIODIESEL USE
- Assume diesel use remains constant through FY2005
- Assume total conversion to B20 by FY2005

FY 2005 Diesel (gal)	FY2005 B20 USE (gal)	EQUIV FY2005 FUEL DISPL (GGE)
333,000	339,494	68,982

2. AFV ACQUISITIONS
- AFV Refueling access (< 15 miles) = E85 (onsite); biodiesel (onsite); LPG (private)

- Location N not in MSA

- Non-AFV acquisition rates assumed same as FY2001

- AFV aqusiition rate assumed to be 75% for FY 2001 -2005

- All acquisitions assumed to be LDV

- LDV turnover assumed to be five years

- Mix of AFVs based on 1999 purchased (100% E85) and current use of 61,000 E85
  - Avg annual LDV fuel use = (330,000)/1188 = 278 GGE

- FFVs assumed 75% E85 use

	2000		2001		2002		2003		2004
	Total	AFV	Total	AFV	Total	AFV	Total	AFV	Total AFV
LDV	151	114	206	155	206	155	206	155	206 155
MDV									
HDV									

Total AFVs in Service in FY2005	Total AF Fuel Use in FY 2005 (GGE)	AFV Refueling Infra
E85 FFV 775	248775	None needed; use existing on-site
Total 775	248775	

3. Fuel Economy Increases
   - Require gradually increasing FE consistent with FY02 and FY05 goals
     - FY01 = 0.5 mpg increase
     - FY02 = 1.0 mpg increase
     - FY03 = 2.0 mpg increase
     - FY04 =2.5 mpg increase
     - FY05 = 3.0 mpg increase
   - Achieve increased FE through better selection of vehicle types, use of hybrids
   - LDV turnover assumed to be five years
   - Assume average new LDV in 1999 travels 4456 mi/yr based on 278 gal/yr and avg 16.03 mpg

	FY01	FY02	FY03	FY04	FY05
New LDV	51	51	51	51	51
gal/LDV	269	262	247	240	234
Total gal used	13744	13341	12601	12261	11939
Total gal saved	434	837	1577	1917	2239

Total gal saved FY01 thru FY05 = 7004 GGE

4. Fleet Efficiency Improvements
   - Reduced vehicle trips
   - Increased vehicle loads
   - More use of higher FE
   - Assume overall two percent reduction in LDV fleet GGE from baseline

Covered Baseline GGE	Assumed 2% Savings (GGE)
365,626	7,313

OVERALL PETROL FUEL REDUCTIONS FOR LOCATION N STRATEGY

STRATEGY OPTION	FUEL SAVED (GGE)
1	68,982
2	248775
3	7004
4	7,313
TOTAL	332,074